

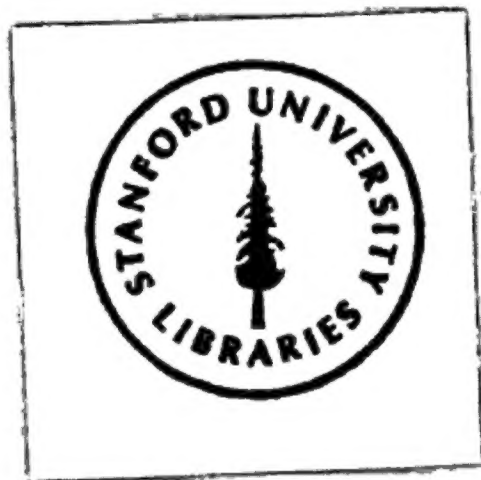
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# SUBJECT-MATTER INDEX

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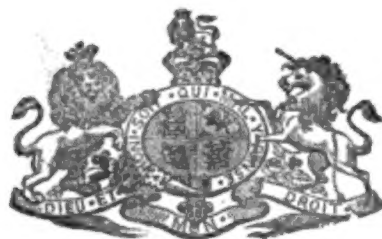
# PATENTS OF INVENTION,

FROM MARCH 2, 1617 (14 JAMES I.), TO OCTOBER 1, 1852 (16 VICTORIÆ).

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PART I.—(A. to M.)

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OF

# PATENTS OF INVENTION,

FROM MARCH 2, 1617 (14 JAMES I.), TO OCTOBER 1, 1852  
(16 VICTORIÆ).

*Gr. Brit. Patent Office*  
**PART I.—(A. to M.)**

Printed and Published by Order of the Honourable the Commissioners of Patents,

UNDER THE

ACT of 15 & 16 VICTORIÆ, Cap. 83. Sec. XXXII.

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**BY BENNET WOODCROFT,**

SUPERINTENDENT OF SPECIFICATIONS, INDEXES, &c.  
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L O N D O N :

PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,  
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.

PUBLISHED AT THE GREAT SEAL PATENT OFFICE,  
SOUTHAMPTON BUILDINGS, HOLBORN.

1857.

350462

gem. photo

Y8A8811 0807M12

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# SUBJECT-MATTER INDEX

## OF

### PATENTS OF INVENTION.

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Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>A.</b>			
<b>ACCIDENTS, PREVENTION OF—</b>			
<b>I.—By Fire.</b>			
<b>1. (Fire-escapes.)</b>			
Fire-machine ( <i>fire-escape</i> ) - - - - -	840	6th Feb. 1766	David Marie.
Machine called a retreat or escape, for conveying persons and valuables out of houses when on fire.	1043	15th May 1773	Joachim Smith.
Fire-balcony for rescuing persons from houses when on fire.	1046	8th July 1773	Alexander Geddes.
Fire-escape - - - - -	1323	15th April 1782	George Beauchamp.
Machine to convey persons and goods from the windows of houses and other buildings when on fire, and to raise firemen and other persons and goods from the ground to the tops of houses and other buildings; also to gather fruit from trees without the help of ladders or scaffolds.	1364	3rd May 1783	Edward Whatmore.
Apparatus whereby persons may escape from houses or buildings in case of accidents by fire.	1383	9th Aug. 1783	John Maserca.
Machine for safely escaping from houses in case of fire.	1411	19th Dec. 1783	Alexander Sparkhall.
Machine for extricating persons from buildings on fire, and for other purposes.	1549	22nd June 1786	John Page.
Fire-escape - - - - -	1652	10th June 1788	William Dufour.
Sliding balcony or fire-escape - - - - -	1790	24th Jan. 1791	William Dufour.
Fire-escapes, or machinery to be used in cases of fire.	3130	10th May 1803	John Harriott.
Machinery for conveying persons from the upper parts of houses on fire, for lowering goods from warehouses, and for other purposes.	3306	22nd Feb. 1810	Æneas Morrison.
Combination of machinery, consisting of fire-escape ladder and apparatus, for the safety of persons and property in case of fire;—applicable to other purposes.	4333	15th Jan. 1819	John Gregory.
Construction of fire-escapes;—partly applicable to other purposes.	5009	7th Oct. 1824	Francis Richman.
Apparatus to effect the escape and preservation of persons and property in case of fire or other circumstances.	8005	6th Oct. 1830	Lieut.-Col. Leslie Walker.
Apparatus for saving lives and property from fire ("Salvator").	7676	7th June 1838	Herman Kessels.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ACCIDENTS, PREVENTION OF—continued.</b>			
Apparatus for facilitating the escape of persons from houses on fire.	8574	18th July 1840	James Roberts.
Apparatus to be used as a fire-escape;—applicable to other purposes where ladders are used.	8599	8th Aug. 1840	Francis William Gerish.
Machine or apparatus to be used as a fire-escape -	8687	5th Nov. 1840	Alexander Horatio Simpson.
Fire-escapes - - - - -	8722	25th Nov. 1840	James Lee Hannah.
Fire-escapes;—applicable to other useful purposes -	8960	19th May 1841	Pierre Journet.
Machinery to facilitate the removal of persons and property from premises in case of fire.	8967	22nd May 1841	John Winterborn.
Scaffolding applicable as a fire-escape for saving life and property - - - - -	10,412	2nd Dec. 1844	{ James Winter, senior. James Winter, junior. William Lane.
Fire-escapes - - - - -	12,326	11th Nov. 1848	John Browne.
 2. (Extinguishing Fires; Fire-guards.)			
Water-bow, or instrument for preserving houses or ships from sudden fire.	59	20th July 1632	Thomas Grent.
Engines with leathern pipes for raising water for drenching fires - - - - -	189	21st June 1676	{ Goodwin Wharton. Bernard Strode.
Engines for quenching fires, and for other purposes	205	4th Oct. 1678	Robert Ledgingham.
Engine for quenching and extinguishing fires in dwelling-houses or elsewhere.	263	25th Feb. 1690	John Loftingh.
Engine for quenching fires in ships and houses -	287	2nd Jan. 1692	John Gladwin.
Engine for raising water to extinguish fires - -	392	27th June 1712	{ Nicholas Lewis Mandell. John Gray.
Water-engine for extinguishing fire - - -	439	26th Dec. 1721	Richard Newsham.
Extinguishing fires in houses and ships, by means of casks and other vessels and materials.	458	12th Nov. 1723	Ambrose Godfrey.
Machine called a syphon or an attracting engine, that acts without friction or solids, partly by friction and partly by force,—of great use for raising water for extinguishing fires - - - - -	466	15th April 1724	{ William Mason. Thomas Chamflower.
Engine for extinguishing fires - - - - -	479	5th June 1725	Richard Newsham.
Engine for extinguishing fires - - - - -	481	10th Dec. 1725	William Deane.
Engine for raising water to extinguish fires - -	496	6th May 1728	Case Billingsley.
Engine for extinguishing fires - - - - -	853	12th July 1766	Charles Nicholas Michel Babu.
Engine made principally of wood (except the air vessel belonging), which will throw a constant stream of water with great force and at a great distance, and will be very useful in extinguishing fires.	986	22nd April 1771	James Edgell.
Machine for extinguishing fires, and for other purposes.	1548	22nd June 1786	John Page.
Method of raising water for the purpose of extinguishing fire in houses, and for other useful purposes.	1620	28th Aug. 1787	Thomas Michell.
Construction of engines for extinguishing fires -	1925	19th Dec. 1792	Charles Simpkin.
Fire-engine, easily portable, and containing a reservoir of water, with means for more easily dispersing the same.	1948	18th April 1793	Joseph Bramah.
Fire extinguisher and fire-guard - - - - -	2008	16th Aug. 1794	John Keylock.
Pump which may be converted into an engine for extinguishing fires.	2097	8th March 1796	Robertson Buchanan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ACCIDENTS, PREVENTION OF—continued.</b>			
Machinery for extinguishing fires in chimneys -	2124	4th July 1796	Daniel Davis.
Constructing engines for extinguishing fires -	2190	17th Aug. 1797	Anthony George Eckhardt.
Fire-guard stove - - - - -	2762	18th May 1804	Joshua Jowett.
Common pump, acting as a fire-engine for sea and land purposes.	2940	6th June 1806	Peter Noble.
Fire-extinguishing engine - - - - -	3037	25th April 1807	Mark Noble.
Apparatus to extinguish fires in grates or stoves without causing dust or smoke.	3167	15th Sept. 1803	John Warren.
Machine or instrument to be applied to stoves or grates for preventing accidents by fire, and whereby the fires in stoves and grates may be put out and extinguished with safety and facility.	3220	28th March 1809	James Youine.
Fire-extinguishing engine - - - - -	3289	14th Dec. 1809	Mark Noble.
Engine, pump, or fire-engine - - - - -	3948	4th Aug. 1815	William Edridge.
Simplifying the construction of extinguishing-engines	4034	27th May 1816	George Dodgson.
Machine for extinguishing fires in chimneys -	4225	10th Feb. 1818	Zachariah Barratt.
Fire-engines or other engines in which are used pistons working in barrels or cylinders.	4355	3rd April 1819	Paul Slade Knight.
Apparatus to be worn by persons entering a room filled with smoke or other vapour, for the purpose of extinguishing fire or extricating persons or property therein.	4889	20th Nov. 1823	Charles Anthony Deane.
Fire-extinguishing machinery - - - - -	5023	21st Oct. 1824	George Dodd.
Piece of machinery to combine with parts of fire-engines.	5755	14th Jan. 1829	Thomas Smith.
Construction of fire-engines - - - - -	6340	4th Dec. 1832	{ Robert Cattle. William Greaves.
Fire-engines;—partly applicable to steam-engines -	7800	8th Sept. 1838	James Ulric Vaucher.
Improvements applicable to fire-engines and other similar apparatus.	8030	11th April 1839	Lot Faulkner.
Apparatus or means for extinguishing fire in houses or other buildings.	9197	21st Dec. 1841	Ovid Topham.
Apparatus for extinguishing fires in chimneys or flues ("Ramoneur") - - - - -	9284	7th March 1842	{ Sir Francis Desanges. Anguish Honour Augustus Durant.
Apparatus used for arresting the progress of and for extinguishing fire.	9530	3rd Dec. 1842	Ebenezer Timmis.
Extinguishing fires in buildings - - - - -	10,014	16th Jan. 1844	Charles Cameron.
Apparatus and means for extinguishing fire and saving life or property.	10,212	4th June 1844	William Henry Phillips.
Apparatus for extinguishing fires in chimneys or flues.	10,250	3rd July 1844	Daniel Stafford.
Extinguishing fire - - - - -	10,604	6th Aug. 1845	Francis Taylor.
Preventing and extinguishing fires in vessels, warehouses, and other buildings.	12,121	12th April 1848	James Meacock.
Extinguishing fire - - - - -	12,344	29th Nov. 1848	{ John Lane. John Taylor.
Preserving lives and property from fire - - - - -	12,569	16th April 1849	John Ruthven.
Extinguishing fire; preparation of materials for the purpose; saving life and property.	12,570	16th April 1849	William Henry Phillips.
Fire-engines - - - - -	12,930	17th Jan. 1850	Henry Cowing.
Means and apparatus for extinguishing fire - - -	13,142	19th June 1850	Robert Weare.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ACCIDENTS, PREVENTION OF—continued.</b>			
<b>II.—By Water.</b>			
<b>1. (Preventing Shipwreck and other Casualties.—Apparatus for indicating the Depth of Water in Ships' Holds.)</b>			
Preserving ships or vessels from foundering at sea or in harbour, from accident or any other cause.	352	20th Sept. 1697	George Oldmer.
Preventing shipwreck - - - - -	434	12th Aug. 1721	Isaac de la Chaumette.
Machine called a syphon, or an attracting engine, that acts without friction or solids, partly by friction and partly by force,—of great use for preserving ships of war in engagements, and merchant ships in diversity of distress at sea -	466	15th April 1724	{ William Mason. Thomas Chamflower.
Machine for retarding a ship driving on a lee shore where there is no anchorage, or on being forced back in her voyage by contrary winds.	534	18th Oct. 1731	George Reynoldson.
Safety of boats or other vessels - - - - -	3932	22nd June 1815	Robert Dickinson.
Air-chamber for preventing ships from sinking -	5050	7th Dec. 1824	Robert Dickinson.
Lessening the drift of ships at sea and protecting them in gales of wind [ <i>by canvas sails stretched on iron rods and let down into the sea</i> ].	5078	11th Jan. 1825	William Shelton Burnett.
Indicating the depth of water in ships and vessels -	5312	14th Dec. 1825	James Ashwell Tabor.
Preserving vessels and other bodies from the dangerous effects of external or internal violence on land or water;—also other improvements connected with the same.	5339	25th Feb. 1826	Benjamin Newmarch.
Buoyant bed or mattress [ <i>which may be used as a floating apparatus in case of shipwreck</i> ].	5537	13th Aug. 1827	William Dickinson.
Apparatus for or methods of preserving persons and property when in danger by shipwreck or otherwise, by speedily converting ordinary boats into life-boats; also other apparatus or means for the same object.	6167	24th Sept. 1831	Henry Hope Werninck.
Apparatus for preventing boats or other floating bodies from capsizing when oppressed by too much sail, and for easing off the ropes and sheets of different descriptions of vessels.	6643	10th July 1834	George Beadon.
Apparatus for measuring and indicating the depth of water in a ship's hold.	7672	5th June 1838	Thomas Hammond Fiske.
Improvements applicable to machinery for securing } ships and other vessels - - - - -	8197	16th Aug. 1839	{ William Bridges Adams. John Buchanan.
Preventing iron ships, boats and other vessels from foundering.	8279	23rd Nov. 1839	William Daubney Holmes.
Apparatus connected with naval architecture for affording increased security from foundering and shipwreck.	8614	3rd Sept. 1840	William Daubney Holmes.
Preventing ships and other vessels from foundering	8711	21st Nov. 1840	{ William Henry Hutchins. Joseph Bakewell.
Securing ships from floatal damage - - - - - [For Life-boats, see "NAVIGATION."]	11,335	15th Aug. 1846	John Buchanan.
<b>2. (Apparatus for Swimming.—Prevention of Drowning.)</b>			
Machine for swimming, to preserve lives in case of shipwreck or the overturning of boats, and in case of the cramp and other accidents in swimming for pleasure.	441	11th April 1722	Benjamin Hubakkuk Jackson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ACCIDENTS, PREVENTION OF—continued.</b>			
Making an air-jacket, with proper shoes, to prevent the fatal consequences attending sailors and others in shipwreck.	808	31st March 1764	William Cobb.
Marine collar and belt - - - - -	818	14th Nov. 1764	{ William Walker. John Carass.
Floats made of cork in the form of a seaman's waist-coat, to be used to prevent drowning.	824	7th Feb. 1765	John Wilkinson.
Apparatus for preserving the lives of mariners and others in case of shipwreck, and in all situations where people are exposed to the danger of drowning.	1733	13th March 1790	John Wilkinson.
Machine to save persons from drowning, though ignorant of the art of swimming ("Collinette")-	2585	3rd Dec. 1801	{ Lawrence Collins. James Butters.
Machine for the prevention of drowning ("Life-buoy").	2847	14th May 1805	John Edwards.
Manufacturing, using, and applying certain articles by which mariners and other persons may be saved from drowning - - - - -	3629	19th Dec. 1812	{ Jacob Samuel Eschauzier. Henry Constantine Jennings.
Application of a power for raising weights, and other purposes [ <i>the pressure of the wind against kites to save persons from being drowned</i> ] - - -	5420	18th Oct. 1836	{ James Viney. George Pocock.
Apparatus for saving human life in case of shipwreck or other disasters by water.	6634	31st June 1834	Jonas Bateman.
"Safety decks," for saving human life in cases of disasters at sea.	8077	22nd May 1839	Lieut. William Oldmixon.
Apparatus or material to prevent persons sinking when in the water.	8087	4th June 1839	John Bradford Furnival.
Preventing persons from being drowned - - -	8303	9th Dec. 1839	Samuel White White.
Apparatus for assisting persons to swim or float and progress in water.	8802	19th Jan. 1841	John Cox.
Supporting, sustaining, and propelling human and other bodies on and in the water.	9428	28th July 1842	Edward Cobbold.
Supporting, sustaining, and propelling human and other bodies on and in the water.	9704	20th April 1843	Edward Cobbold.
Apparatus for supporting the human body when immersed in water, to prevent drowning.	9710	25th April 1843	Richard Greville Pigott.
Portable life-preserver and swimming-belt ("Nautilus").	10,128	28th March 1844	Charles William Spicer.
Apparatus applicable to the preservation of life and property when immersed in water.	10,811	9th Aug. 1845	Pierre Armand le Comte de Fontainemoreau.
Apparatus for protecting life and property in cases of shipwreck - - - - -	11,709	22nd May 1847	{ William Dync. Morys Haggard.
Apparatus for supporting human and other bodies when in the water.	11,802	19th July 1847	Edward Light.
Preserving lives and property from water [ <i>increasing the buoyancy of waterproof cases used for hats, caps, travelling bags, &amp;c., by inflating the same with air.</i> ]	12,569	16th April 1849	John Ruthven.
Apparatus to be employed for the preservation of life and property;—wholly or partly applicable to articles of furniture, dress, and travelling apparatus.	12,701	9th July 1849	Robert William Laurie.
<b>III.—In Steam Boilers and Engines.</b>			
Apparatus calculated to prevent or render less frequent the explosion of boilers in generating steam.	5930	24th April 1830	Joseph Cochaux.
Prevention of explosion or collapse of steam and other boilers from excess of internal or external pressure.	6509	19th Nov. 1833	John Cooper Douglass.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ACCIDENTS, PREVENTION OF—continued.</b>			
Apparatus for preventing the explosion of boilers or generators of steam.	7210	13th Oct. 1836	Charles Pierre Devaux.
Apparatus for preventing the explosion of boilers or generators of steam.	7378	23rd May 1837	Charles Pierre Devaux.
Apparatus for preventing explosion in steam-boilers	10,067	21st Feb. 1844	Thomas Liddell.
Apparatus for preventing the explosion of steam-boilers.	12,135	27th April 1848	Edward Walmsley.
Apparatus for preventing explosions of steam-boilers.	12,527	19th March 1849	Samuel Hall.
Preventing accidents in working steam-engines and boilers.	12,644	7th June 1849	Robert Wilson.
Pumps and machinery, or apparatus for working the same;—applicable for working other machinery [water-level attached to steam-boilers, to prevent explosions].	12,783	20th Sept. 1849	William Edward Newton.
<b>IV.—In Coaches or other Vehicles;—also in riding and stopping Horses.</b>			
Engine applicable to a coach, whereby the horses may be instantaneously disengaged in cases of emergency.	131	8th Feb. 1661	The Right Honourable the Marquis of Worcester.
Engine to prevent the overturning of coaches, carts, or waggons.	350	21st April 1697	Col. Bartholomew Ogilby.
Causing the bodies of coaches, calashes, chaises, waggons and other carriages to remain erect, even though the wheels or carriages may be overset.	370	8th April 1704	Benjamin Jackson.
Causing the bodies of coaches, calashes, chaises, waggons and other carriages to remain erect, even though the wheels or carriages may be overset.	399	5th May 1715	Benjamin Habakkuk Jackson.
Engines to prevent coaches, waggons, and other carriages from overturning.	415	17th July 1717	James Trengrouse.
Machine, called a poiser, to be fixed to any coach, chariot, or chaise, to prevent the same overturning.	451	23rd Sept. 1722	Richard Dunning.
Preventing the inconveniences arising from the running away of horses with coaches, chariots, chaises, and other four-wheeled carriages.	540	11th May 1733	Thomas Lugg.
Rendering safe and easy the riding in a chaise, chair, or such like vehicle.	618	26th July 1746	Thomas Hawkes.
Machine for disengaging horses from coaches, carriages, and other conveyances on an emergency.	838	28th Jan. 1766	Thomas Hillcoat.
Machine for avoiding the danger which would attend a person who, in falling from his horse, entangles his feet in the stirrups.	885	11th Nov. 1767	Christopher Battiscombe.
Preventing the dangers arising to equestrians from their hanging by the foot in the stirrup, in case of falling or being thrown from their horses.	926	23rd May 1769	Anne Stell.
Machinery for affording security to passengers in carriages.	1710	7th Nov. 1789	Ralph Gout.
Escape for horses, to enable them to disengage themselves from their halters, when entangled therein.	1868	18th April 1792	Stephen Jenner.
Apparatus for disengaging horses from carriages, in cases of danger.	2587	27th Feb. 1802	Richard Pottinger.
Preventing accidents liable to occur in carriages drawn by horses.	2588	27th Feb. 1802	John Lewis.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ACCIDENTS, PREVENTION OF—continued.</b>			
Machine to prevent danger to persons driving in carriages, chaises, or other carriages, in consequence of horses taking fright while harnessed thereto.	2596	24th March 1802	Philip James Meyer.
Disengaging horses from carriages - - - -	2600	20th March 1802	John Williams.
Machinery for disengaging horses from carriages -	2664	29th Nov. 1802	{ James Roberts. Edward Brine.
Apparatus for stopping ungovernable horses - -	2674	20th Jan. 1803	Charles Robert Wilson.
Preserving the equilibrium of carriages and vehicles, and preventing them overturning.	3091	19th Dec. 1807	John Williams.
Guidance of carriages, and rendering them less liable to overturn ("George's Wain").	3106	4th Feb. 1808	John Dumbell.
Apparatus to be fixed to the naves of wheels and the beds of axletrees of carriages, to prevent accidents.	3418	14th March 1811	Thomas Willis Cooper.
Preventing accidents from carriages - - - -	3520	20th Jan. 1812	George White.
Safeguard in getting in and out of chairs, carriages, and other two-wheeled carriages.	3886	21st Feb. 1815	Joseph Burrell.
Method of preventing accidents arising from horses falling when harnessed to two-wheeled carriages.	3911	29th April 1815	William Bush.
Wheel-guard - - - - -	3986	2nd March 1816	Francis Turvill.
Apparatus to be applied to carriages to prevent them being overturned.	4079	1st Nov. 1816	William Snowden.
Machine or apparatus for preventing the wheels of waggons, carts, coaches, and other carriages from coming off by accident ("Wheel detainer").	4242	8th April 1818	William Hopkinson.
Apparatus for preventing the overturning of stage-coaches and other wheeled-carriages.	4334	15th Jan. 1819	John Roberts, junior.
Machine to be attached to carriages as a substitute for a drag, to regulate the speed and prevent accidents in going down hill.	4437	10th Feb. 1820	James Huggett.
Machine or apparatus to prevent the overturning or falling of carriages. [ <i>A swinging prop or crutch on each side.</i> ]	5165	14th May 1825	Thomas Pyke.
Apparatus to prevent coaches, carriages, mails, and other vehicles overturning. [ <i>A pendent prop on each side.</i> ]	5225	11th Aug. 1825	{ William Hirst. Henry Hirst. William Heycock. Samuel Wilkinson.
Stopping horses when running away with riders or carriages. [ <i>Stoppers applied to the animals' nostrils.</i> ]	5619	21st Feb. 1828	Thomas Otway.
Apparatus to be attached to carriages for the purpose of affording safety in travelling. [ <i>Apparatus for locking the wheel and disengaging the horses.</i> ]	5727	10th Dec. 1828	Zachariah Riley.
Apparatus or contrivance for preventing accidents in carriages, gigs, and other vehicles, by instantly liberating horses or other animals from the same when in danger or otherwise; locking and securing the wheels in like cases.	5994	7th Sept. 1830	Peter Williams.
Apparatus for preventing accidents with carriages in descending hills, or in other perilous situations.	6406	4th April 1833	Edward Boys, junior.
Apparatus for preventing accidents to travelling-carriages of various descriptions.	6679	25th Sept. 1834	Cornelius Tongue.
Apparatus to be attached to carriages for stopping the horses or checking their speed.	7677	7th June 1838	Robert Thomas.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ACCIDENTS, PREVENTION OF—continued.</b>			
Parachute to prevent the fall or injury of carriages on the breaking of their axles.	8911	31st March 1841	Joseph Gaury.
Means of preventing accidents to carriages on common roads.	10,571	18th March 1845	Henry Samuel Rayner.
Protecting persons and property from accidents in carriages.	12,754	30th Aug. 1849	Isidore Bertrand.
[For Drags, see "COACHES."]			
<b>V.—On Railways.</b>			
Preventing railway accidents resulting from one train overtaking another.	8713	24th Nov. 1840	John Haughton.
Means to be applied to railways, and carriages thereon, for preventing accidents, and to lessen the injurious effects of accidents to passengers, goods, and railway trains.	8744	18th Dec. 1840	Abraham Alexander Lindo.
Means of preventing accidents on railways - - -	8785	14th Jan. 1841	Walter Hancock.
Apparatus for preventing engines and carriages from going off the rails on railways, and for removing obstructions thereon - - - -	9804	26th Jan. 1843	{ Francis M'Getrick. Matthew Bailey Tennant.
Apparatus for preventing shocks or accidents on railways.	10,301	29th Aug. 1844	William Newton.
Means of preventing accidents to carriages on railways.	10,571	18th March 1845	Henry Samuel Rayner.
Machinery for preventing accidents to carriages and passengers on railways.	10,951	18th Nov. 1845	Christopher Vaux.
Preventing accidents on railways - - - -	11,068	31st Jan. 1846	André Etienne.
Apparatus to be applied to railway carriages, to prevent accidents thereon.	11,393	6th Oct. 1846	Samuel Houldsworth.
Preventing accidents on railways - - - -	11,751	15th June 1847	Alexander Symons.
Machinery for preventing accidents on railways -	11,836	19th Aug. 1847	Edward William Eton.
Preventing injuries to persons and property from the sudden stoppage of railway carriages.	12,463	8th Feb. 1849	William Willcocks Sleigh.
Preventing accidents on railways - - - -	12,483	17th Feb. 1849	Charles Frederick Whitworth.
Fender [to be attached to railway engines and carriages for prevention of accidents].	14,007	8th March 1852	Augustus Turk Forder.
Preventing accidents on railways [by means of signal-posts].	14,037	24th March 1852	William Archer.
[For Breaks and Buffers, see "RAILWAYS."]			
<b>VI.—In Mining and Hoisting.</b>			
Cranes for avoiding accidents arising in the raising or lowering of heavy bodies.	3570	26th May 1812	William Hardecastle.
Apparatus for destroying fire-damp in mines - -	5348	22nd April 1826	William Wood.
Instrument for igniting gunpowder when used for blasting rocks, and in mining ("Miner's Safety Fuze").	6150	6th Sept. 1831	William Bickford.
Apparatus to show the presence of bi-carburetted hydrogen gas in mines, wells, houses, buildings, rooms, or vaults, and consequently to prevent the explosions and accidents liable to be produced by the said gas ("Gasoscope").	9282	7th March 1842	John Warrick.
Manufacturing the Miner's Safety Fuze - - -	10,928	6th Nov. 1845	{ John Solomon Bickford. George Smith.
Safety fuze - - - - -	11,417	12th Nov. 1846	{ Thomas Davey. George Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ACCIDENTS, PREVENTION OF—continued.</b>			
<b>VII.—By Gunpowder.</b>			
Diminishing the risk of accidental explosion of gunpowder and other substances liable to explode by contact with fire.	11,011	20th Dec. 1845	John Blyth.
Protecting and confining gunpowder and compounds thereof, and materials used for such purpose [ <i>using tin-foil for making cartridge-cases, percussion-caps, and wads; also cases for fire-works</i> ]	13,377	30th Nov. 1850	{ James Augustus Elmslie George Simpson.
<b>VIII.—In discharging and in the accidental discharge of Fire-arms.</b>			
Locks to discharge double-barrel guns and pistols by means of one trigger only, without the possibility of discharging both barrels at the same instant, but whereby the one may be discharged either in immediate succession to, or at any distant period from, the other [ <i>to prevent accidental discharge</i> ].	1707	6th Nov. 1789	James Templeman.
Trigger of a gun for the better discharging and securing of all sorts of fire-arms in general [ <i>to prevent accidental discharge</i> ].	1837	26th Nov. 1791	James Sturman Searles.
Guns and pistols [ <i>preventing accidental discharge</i> ] -	2178	12th April 1797	John Manton.
Gun-locks [ <i>to prevent accidental discharge</i> ] - -	2325	28th Feb. 1805	George Dodd.
Locks for muskets, pistols, guns, and other fire-arms [ <i>to prevent accidental discharge</i> ].	2920	21st March 1806	Francis Place.
Single and double cannon, carronades, or ordnance muskets, and all other kind of fire-arms; method of charging or loading the same [ <i>preventing accidental discharge</i> ].	3155	30th July 1808	George Richards.
Lock for guns and pistols [ <i>to prevent accidental discharge</i> ].	3266	11th Dec. 1809	John Manton.
Guns and pistols [ <i>preventing accidental discharge</i> ] -	3558	30th April 1812	Joseph Manton.
Fire-arms and their locks; also apparatus for trying and loading them [ <i>preventing accidental discharge</i> ].	3599	25th Sept. 1812	Durs Egg.
Security to prevent the accidental discharge of fowling-pieces, which is unconnected with the lock,—applicable to all kinds of fire-arms.	3773	24th Dec. 1813	Ralph Sutton.
Fire-arms and locks of fire-arms [ <i>to prevent accidental discharge</i> ].	3784	9th March 1814	James Thomson.
Guns, pistols, and other fire-arms; implements used for loading them [ <i>preventing accidental discharge</i> ].	3828	4th Aug. 1814	Thomas Sykes.
Safeguard to prevent the accidental movement of the cock of a gun, pistol, or other fire-arm towards the hammer.	4218	3rd Feb. 1818	Matthew Cotes Wyatt.
Construction and use of fire-arms [ <i>to prevent accidental discharge</i> ].	4336	23rd Jan. 1819	Urbanus Sartorius.
Gun-barrels [ <i>preventing accidents from the bursting</i> ].	4491	20th July 1820	William Dell.
A method or methods applicable to fowling-pieces or other fire-arms [ <i>to prevent accidental discharge</i> ].	5026	4th Nov. 1824	John Somerville.
Guns and other fire-arms [ <i>covering the detonating-cap to prevent accidents</i> ].	5055	18th Dec. 1824	Samson Davis.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ACCIDENTS, PREVENTION OF—continued.</b>			
Fowling-pieces or other fire-arms [ <i>to prevent accidental discharge</i> ].	5242	15th Aug. 1825	Charles Downing.
Projectile [ <i>preventing the accidental discharge of a walking-stick gun</i> ].	5726	8th Dec. 1828	Isaac Dickson.
Apparatus to be applied to fowling-pieces and other fire-arms in place of locks [ <i>to prevent accidental discharge</i> ] - - - - -	5845	15th Sept. 1829	{ David Lawrence. John Crundwell.
Fire-arms and other weapons of defence [ <i>preventing accidental discharge</i> ].	5905	27th Sept. 1830	Charles Random Baron de Berenger.
Fowling-pieces, muskets, rifles, pistols, and small fire-arms [ <i>preventing accidental discharge</i> ].	6053	17th Dec. 1830	Bartholomew Redfern.
Guns, muskets, and other fire-arms, method of priming; machinery for making same [ <i>preventing accidental discharge</i> ].	6137	13th July 1831	Augustus Demondion.
Fire-arms [ <i>preventing accidents from the bursting</i> ] -	6675	6th Sept. 1834	Henry Shrapnel.
Guns, muskets, and other fire-arms [ <i>preventing accidental discharge</i> ].	6825	28th April 1835	John Somerville.
Fire-arms [ <i>preventing accidental discharge</i> ] - -	6909	22nd Oct. 1835	Samuel Colt.
Fire-arms [ <i>preventing accidental discharge</i> ] - - -	7610	10th April 1838	Joseph Rock Cooper.
Guns, pistols, and other denomination of fire-arms } [ <i>preventing accidental discharge</i> ] - - }	8024	9th April 1839	{ George Stocker. Joseph Bentley.
Safety bolt and tumbler for the locks of certain kinds of fire-arms [ <i>to prevent accidental discharge</i> ].	10,109	14th March 1844	Thomas Seymour.
Guns [ <i>preventing the bursting and accidental discharge</i> ].	10,849	2nd Oct. 1845	John Hale.
Producing-power for the discharge of weapons and other missiles [ <i>preventing accidents from the bursting</i> ].	11,864	9th Sept. 1847	Connor William O'Leary.
Fire-arms [ <i>preventing accidental discharge</i> ] - -	13,432	20th Jan. 1849	Henry Needham.
Fire-arms and ordnance [ <i>preventing the bursting and accidental discharge</i> ].	12,813	15th May 1849	Louis Alfred de Chatauvillard.
Rifles and other fire-arms [ <i>preventing accidental discharge</i> ].	13,527	24th Feb. 1851	Robert Adams.
Fire-arms [ <i>preventing accidental discharge</i> ] - -	13,994	3rd March 1852	George Leopold Ludwig Kufahl.
Fire-arms [ <i>preventing accidental discharge</i> ] - -	14,265	19th Aug. 1852	Thomas Hunt.
<b>IX.—In Window cleaning.</b>			
Apparatus to be applied to windows of houses or other buildings, to prevent accidents when such windows are being cleaned.	8574	18th July 1840	James Roberts.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ACIDS—</b>			
<b>Extracting, concentrating, distilling, evaporating.</b>			
Separating acid from mineral sulphur, and rendering it useful for medicinal purposes.	1203	21st Dec. 1778	Matthew Sanderson.
Extracting mineral acids from pit coal - - -	1291	30th April 1781	Archibald Earl of Dundonald.
Extracting and making from vegetable bodies an astringent acid liquid, applicable to improvements in divers arts and manufactures.	2090	19th Feb. 1796	Joseph Hately.
Making an acid for corroding lead and for other purposes.	2461	30th Dec. 1800	Thomas Grace.
Making sulphuric acid - - - - -	3946	3rd Aug. 1815	Pierre Pelletan.
Making sulphuric acid - - - - -	3998	18th March 1816	Pierre Pelletan.
Manufacture of sulphuric acid - - - - -	4263	19th May 1818	{ Thomas Hills. Uriah Haddock.
Procuring or preparing muriatic acid - - -	4357	3rd April 1819	Henry Peter Fuller.
Retort or vessel for distillation, evaporation, and concentration of acids and other substances - }	4587	8th Sept. 1821	{ Berrington Gibbons. Charles Hummings Wilkinson.
Retorts used by makers of oxymuriatic acid - -	5739	15th Dec. 1823	John Morfitt.
Manufacturing sulphuric acid, commonly called oil of vitriol.	6096	21st March 1831	Peregrine Philips.
Manufacture of oxalic acid - - - - -	7010	20th Feb. 1836	John Barsham.
Vegetable acid, which may be employed in various manufactures, and in culinary or other purposes; process of obtaining the same.	7186	15th Sept. 1836	Peter Ascanius Tealdi.
Apparatus for decomposing common salt; conducting the process [to obtain liquid muriatic acid].	7267	24th Dec. 1836	William Gossage.
Apparatus to be used in manufacturing sulphuric acid.	7440	30th Sept. 1837	Thomas Clark.
Manufacture of sulphuric acid - - - - -	7636	8th May 1838	William Gossage.
Manufacture of sulphuric acid from copper ore, copper regulus, and sulphuret of zinc - - }	7793	31st Aug. 1838	{ John Heys. William Thompson Clough.
Preparing or manufacturing sulphuric acid - -	7831	16th Oct. 1838	John Fowler.
Producing acids applicable to printing, colouring, or dyeing cotton and other fabrics.	7843	3rd Nov. 1838	Abraham Bury.
Obtaining acids from vegetable substances - -	7964	11th Feb. 1839	{ Charles Gabriel Baron de Suarce. William Pontifex.
Manufacture of hydrochloric or other acids - -	7996	8th March 1839	Edward Ford.
Apparatus for manufacture of muriatic acid - -	8000	14th March 1839	Josias Christopher Gamble.
Manufacture of sulphuric acid - - - - -	8149	11th July 1839	Edouard François Joseph Duclos.
Processes for obtaining copper and other metals from metallic ores [obtaining also sulphurous acids].	8374	5th Feb. 1840	William Isaac Cookson.
Manufacturing or producing soda and other articles obtained by or from the decomposition of common salt or chloride of sodium [obtaining silicic acid or gelatinous silica, also muriatic acid] - }	8386	12th Feb. 1840	{ Antoine Blanc. Théophile Gervais Bazille.
Obtaining sulphurous acids and other products from pyrites.	8396	25th Feb. 1840	Thomas Farmer.
Manufacture of sulphuric acid; recovery of the residue for useful purposes - - - - - }	8465	6th April 1840	{ Harrison Blair. Henry Hough Watson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ACIDS—continued.</b>			
Manufacture of oxalic acid - - - - -	8555	26th June 1840	John William Niren.
Separating stearine or stearic acid from elaine in tallow, fat, and oils.	8686	5th Nov. 1840	George Delianson Clark.
Obtaining carbonic acid from certain mineral substances.	8765	31st Dec. 1840	Thomas Robert Sewell.
Manufacture of sulphuric acid - - - - -	8925	15th April 1841	{ Frank Hills. George Hills.
Manufacture of sulphuric acid - - - - -	9558	15th Dec. 1842	Charles Maurice Elizee Sautter.
Concentration and manufacture of sulphuric acid -	9569	22nd Dec. 1842	William Godfrey Kneller.
Purification and application of ammonia to obtain certain chemical products [ <i>prussic and hydrocyanic acids</i> ].	9832	13th July 1843	Richard Laming.
Treatment of the ores of zinc in the process of manufacturing zinc [ <i>and obtaining sulphuric and carbonic acids</i> ].	9912	18th Oct. 1843	James Graham.
Apparatus for burning sulphur in the manufacture of sulphuric acid.	10,116	20th March 1844	William Isaac Cookson.
Manufacture of sulphuric acid - - - - -	10,320	19th Sept. 1844	William Birkmyre.
Extracting and separating the catechuic acid from the tannic acid in catechu or terra-japonica used in tanning.	10,331	26th Sept. 1844	Alexander Turnbull.
Manufacture of sulphuric acid - - - - -	10,416	4th Dec. 1844	Josais Christopher Gamble.
Manufacture of acids - - - - -	10,519	10th Feb. 1845	Oglethorpe Wakelin Barratt.
Production and manufacture of pyroligneous acid } or other inflammable matter - - - - - }	10,569	18th March 1845	{ Thomas Drew. Edward Stocker.
Processes in the manufacture of alkalis, applicable also to purposes of condensation [ <i>condensing the muriatic acid evolved in the manufacture of alkali</i> ].	10,916	3rd Nov. 1845	Thomas Bell.
Apparatus used in the concentration of sulphuric acid.	10,972	27th Nov. 1845	Eden Thomas Jones.
Treating guano to obtain chemical compounds therefrom [ <i>oxalic acid</i> ].	11,019	24th Dec. 1845	Wilton George Turner.
Apparatus for evaporating or concentrating sulphuric acid.	11,052	20th Jan. 1846	Andrew Kurtz.
Manufacturing sulphuric, muriatic, and acetic acids	11,328	11th Aug. 1846	Frank Hills.
Smelting copper ores [ <i>and manufacturing sulphuric acid in the process</i> ].	11,307	23rd July 1846	Thomas Bell.
Manufacture of certain acids; also decomposing certain acids [ <i>making sulphuric and oxalic; decomposing hydrochloric and formic</i> ].	11,425	22nd Oct. 1846	James Thomas Jullion.
Manufacture of certain acids [ <i>sulphuric and muriatic</i> ]	11,555	1st Feb. 1847	Richard Albert Tilghman.
Manufacture of hydrochloric acid and nitric acid; obtaining several products therefrom [ <i>and making nitrates of soda and potassa for producing nitric acid</i> ].	11,585	19th Feb. 1847	François Stanislas Meldon de Sussex.
Manufacture of dry sulphuric acid, and smoking or Nordhausen sulphuric acid.	11,773	29th June 1847	Paul Gilbert Prelier.
Smelting copper and other ores [ <i>and manufacturing sulphuric acid in the process</i> ].	11,966	16th Nov. 1847	William Birkmyre.
Manufacture of certain acids; apparatus applicable } for the purpose - - - - - }	12,028	18th Jan. 1848	{ Charles Crane. James Thomas Jullion.
Manufacture of oxalic acid - - - - -	12,151	9th May 1848	Richard Laming.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ACIDS—continued.</b>			
Manufacture of certain acids - - -	12,165	26th May 1848	{ Abraham Solomons. Bondy Azulay.
Improvements partly applicable to retorts for distilling pyroligneous acid, and other similar purposes.	12,176	6th June 1848	Richard Barnes.
Obtaining sulphur and sulphuric acid - -	12,264	4th Sept. 1848	Richard Laming.
Manufacture of pyroligneous acid - -	12,275	28th Sept. 1848	Andrew Paton Halliday.
Manufacture of sulphuric, nitric, and oxalic acids -	12,333	21st Nov. 1848	{ Alexander McDougal. Henry Ranson.
Purification of pyroligneous acid - -	12,380	21st Dec. 1848	James Henry Staple Wildsmith.
Preparation or manufacture of oleic acid, to make the same suitable for burning in lamps - -	12,390	28th Dec. 1848	{ George Fergusson Wilson. Charles Humfery.
Manufacture of sulphuric acid - - -	12,541	28th March 1849	James Thomson Wilson.
Manufacture of sulphuric, sulphurous, acetic, and oxalic acids.	12,881	10th Dec. 1849	Jean Baptiste Ecarnot.
Manufacture of sulphuric acid - - -	12,882	27th Feb. 1850	Brereton Todd.
Treating fatty, oleaginous, resinous, bituminous, and cerous bodies; manufacture and application of them and of their components and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [ <i>producing oleic and oxalic acids</i> ] - -	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Manufacture of muriatic and nitric acids -	13,113	11th June 1850	Peter Armand le Comte de Fontainemoreau.
Concentration of sulphuric acid and certain other fluids; use of products obtained in the manufacture of sulphuric acid.	13,424	20th Dec. 1850	William Herbert Gossage.
Manufacture of sulphuric acid - - -	13,529	24th Feb. 1851	Isaac Lowthian Bell.
Manufacture of sulphuric acid from sulphates of barytes and strontia.	13,556	15th March 1851	Herbert Taylor.
Concentrating sulphuric acid - - -	13,714	7th Aug. 1851	{ Alphonse Rene le Mire de Normandy. Richard Fell.
Preparation of wool for manufacture of woollen and other fabrics; process of obtaining materials for that purpose [ <i>obtaining oleic acid</i> ] - -	13,907	22nd Jan. 1852	{ James Pillans Wilson. George Fergusson Wilson.
Treatment of metallic ores and certain salts and residuary matters; obtaining products therefrom [ <i>decomposition of sulphate of soda and potash, and manufacture of sulphur or sulphuric acid</i> ].	13,987	23rd Feb. 1852	Samuel Boulton.
Treating ores containing zinc, and products obtained therefrom [ <i>obtaining sulphuric and carbonic acids</i> ].	13,999	8th March 1852	James Graham.
Treatment and application of slag, or the refuse matter of blast furnaces [ <i>using slag in the purification of pyroligneous acid</i> ].	14,013	8th March 1852	Alexander Cunningham.
Manufacture of sulphuric acid [ <i>by applying currents of electricity</i> ].	14,039	24th March 1852	Thomas Bell.
Manufacture of sulphuric acid - - -	14,185	24th June 1852	Thomas Bell.
Improvements partly applicable to the manufacture of acids by electric agency.	14,198	6th July 1852	Martyn John Roberts
Obtaining and applying electric currents;—partly applicable to the production of metallic solutions and of certain acids.	14,346	13th Nov. 1852	William Petrie.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ADHESIVE SUBSTANCES.</b>			
<b>I.—Gelatine.</b>			
Extracting jelly or gelatinous matter from substances capable of affording the same, for use in the arts, or for domestic or other purposes.	3820	12th July 1814	Bazil Louis Mertian.
Manufacture of gelatine - - - - -	7661	31st May 1838	William Rattray.
Preparing gelatine which has the properties of or resembles glue.	6010	23rd March 1839	George Nelson.
Manufacture of gelatine - - - - -	8249	31st Oct. 1839	Stephen George Dordoy.
Preparing skins and other animal matters for the manufacture of gelatine.	8478	16th April 1840	William Henry Bailey Webster.
Preparing skins and other animal matters for the manufacture of gelatine.	8718	25th Nov. 1840	William Henry Bailey Webster.
Preparing skins and other animal substances for obtaining gelatine.	8858	23rd Feb. 1841	John Dean.
Preparing vegetable gelatine or size for paper - -	9356	23rd May 1842	Thomas Middleton.
Manufacture of gelatine - - - - -	10,042	8th Feb. 1844	{ John Cox. George Cox.
Manufacture of gelatine - - - - -	10,630	22nd April 1845	Charles Robert Roper.
Preparation of gelatine - - - - -	11,045	20th Jan. 1846	Gerard Andrew Arney.
Preparation of certain substances for making various glutinous compounds.	11,725	29th May 1847	Alfred Stevens.
Capsules or small cases for protecting matters enclosed therein from the air; materials used in the manufacture of the same [ <i>manufacture of a vegetable gelatine from Carrageen moss.</i> ]	11,937	2nd Nov. 1847	James Murdoch.
Manufacture of gelatinous substances; apparatus to be used therein.	11,975	24th Nov. 1847	George Philbrick Swinborne.
Apparatus for beating or triturating viscous or gelatinous substances.	12,775	20th Sept. 1849	Josiah Lorkin.
<b>II.—Gum and Glue.</b>			
Method of making fish glue - - - - -	691	23rd May 1754	Peter Zomer.
Elastic gum for making colours durable, dressing silk, linen, and cotton in the loom, rendering supple clay or composition used in modelling, and preventing the same from drying too fast.	1277	24th Jan. 1781	Albert Angell.
Preparing an ingredient used as a substitute for gum in thickening colours for printing.	1653	11th June 1788	Francis Blaikie.
Composition of a gum to be used in calico-printing	2314	25th May 1799	Stephen Wilkins.
Preparing a substitute for gum senegal and other gums extensively employed in certain branches of manufacture.	2529	31st July 1801	Archibald Earl of Dundonald.
Manufacturing hard glue from tail-fins and other parts of the whale fish.	2792	22nd Nov. 1804	Robert Raines
Manufacturing glue from bones by means of steam -	4654	2nd March 1822	Charles Yardley.
Manufacture of glue - - - - -	7661	31st May 1838	William Rattray.
Manufacture of dextrine [ <i>substitute for gum</i> ] - -	7620	27th Sept. 1838	Edmund Heuze.
Manufacture of glue - - - - -	8249	31st Oct. 1839	Stephen George Dordoy.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ADHESIVE SUBSTANCES—continued.</b>			
Preparing skins and other animal substances for obtaining glue.	8858	23rd Feb. 1841	John Dean.
Treating farinaceous substances - - - -	10,321	19th Sept. 1844	James Francis Pinel.
Dissolving lac and shellac - - - -	10,632	22nd April 1845	Alphonse le Mire de Normandy.
Preparation of an artificial vegetable gum as a substitute for gum senegal.	10,635	22nd April 1845	Charles Louis Mathurin Fouquet.
Treating farinaceous substances [to obtain a gum as a substitute for gum tragacanth, senegal, and similar gums].	10,648	1st May 1845	James Francis Pinel.
Manufacture of glue; treating products obtained in the manufacture of the same.	11,528	14th Jan. 1847	Alexander M'Dougall.
Purifying and decolourizing certain gums - -	12,345	17th Aug. 1848	Moses Haym Picciotto.
Manufacture of gums - - - -	13,444	11th Jan. 1851	Samuel Hall.
<b>III.—Isinglass.</b>			
Making isinglass from British materials with which finings are made.	749	26th March 1760	Humphry Jackson.
Preparing isinglass from river and marine fish -	3552	8th April 1812	James Laurence Drake.
Process for improving the qualities of isinglass -	7375	22nd May 1837	George Nelson.
<b>IV.—Size and Paste.</b>			
Crystalline size or mixture, to be used in sizing and dressing cotton, worsted, and linen yarn.	2348	4th Nov. 1799	Thomas Foden.
Making paste to be used in weaving and sizing } calico, and for pasting paper, &c. - - - }	2463	16th Jan. 1801	{ Joseph Wilkes. Thomas Jewsbury.
Size for use in setting and whitening ceilings, running and whitening cornices, and colours to be laid on stucco in oils and distemper, for finishing the interior of houses.	3424	26th March 1811	Samuel Kerrod.
Compound paste for improving and colouring lace, net, and other manufactured articles of flax, cotton, wool, silk, or other animal or vegetable substance, and whether composed of interstices or open or close work, and to be applied in dressing or getting up the same.	4769	24th March 1823	Thomas Wickham.
Preparation of a mucilage to be used in printing linen, woollen, or other cloths and silks.	4789	29th April 1823	John Bourdieu.
Glue, size, or composition for use in preparing cloth as a substitute for leather.	4908	28th Feb. 1824	John Gunby.
Manufacture of size - - - -	7661	31st May 1838	William Rattray.
Manufacture of size - - - -	8249	31st Oct. 1839	Stephen George Dordoy.
Preparing skins and other animal substances for obtaining size.	8858	23rd Feb. 1841	John Dean.
Preparing vegetable size for paper - - - -	9356	23rd May 1842	Thomas Middleton.
Improvements partly applicable to treating gold-size, when employed to fix metallic powders and metal-leaf.	10,011	13th Jan. 1844	Henry Bessemer.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ADHESIVE SUBSTANCES—continued.</b>			
<b>V.—Starch.</b>			
Making starch from potatoes - - - - -	418	17th May 1717	{ Samuel Newton. Charles Nowell. Laurence Clark. Clement Joynes.
Making the steam of boiling liquors useful for making starch and other humid substances - }	430	25th June 1720	{ John Theophilus Desaguliers. Daniel Niblet. William Vreem.
Making starch, with the use of machines, from other ingredients than wheat, flour, pollard, bran, or potatoes.	890	2nd Jan. 1768	William Prince.
Constructing machines for grinding starch for hair-powder.	1587	30th Oct. 1786	Walter Taylor.
Colouring starch for making hair-powder - -	1887	8th May 1794	Philip Dixon.
Extracting starch from the horse-chestnut - -	2098	8th March 1796	William Murray.
Products from refuse, slime, or wash of starch -	4224	10th Feb. 1818	Mary Sedgwick.
Manufacture of starch - - - - -	4559	9th May 1821	Samuel Hall.
Prepared rice, for use in all cases where starch is applied.	4848	11th Sept. 1823	Thomas Wickham.
Manufacture of starch; machinery for preparing for manufacturing starch; employing refuse matters obtained in such manufacture.	7951	25th Jan. 1839	Pierre Jean Isidore Verdure.
Manufacture of starch; converting the refuse to useful purposes.	7995	6th March 1839	Orlando Jones.
Treating farinaceous matters to obtain starch and other products; manufacturing starch.	8488	30th April 1840	Orlando Jones.
Manufacture of starch - - - - -	9013	28th June 1841	William Thomas Berger.
Manufacture of starch - - - - -	9188	9th Dec. 1841	James Colman.
Preparing flour from grain and potatoes by machinery [for making starch].	9471	15th Sept. 1842	Frederick Bowles.
Manufacture of starch - - - - -	10,359	22nd Oct. 1844	John Henry Rehé.
Manufacture of starch, and other like articles of commerce, from farinaceous and leguminous substances - - - - -	12,763	13th Sept. 1849	{ Henry Attwood. John Renton.
Manufacture of starch - - - - -	12,947	26th Jan. 1850	Thomas Berger.
Manufacture of starch - - - - -	13,110	8th June 1850	James Colman.
Manufacture of starch - - - - -	13,444	11th Jan. 1851	Samuel Hall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AÉRATED LIQUORS, MINERAL WATERS, &amp;c.</b>			
<b>I.—Preparing and making.</b>			
Impregnating Cheltenham or other natural medicinal waters, denominated "mineral waters," with gas or aëriform fluid, and adding other substances to or combining the same with such waters.	3077	30th Oct. 1807	Henry Thomson.
Preparing soda and other mineral water, spirituous, acetous, saccharine, and aromatic liquors.	3232	4th May 1809	William Francis Hamilton.
Construction of a vessel, machine, or fountain used in the manufacture of water impregnated with fixed air, and of artificial, mineral, and soda waters, and delivery of the same therefrom; also in the delivery of cyder and other liquids ("Regency portable Fountain").	3680	13th April 1813	Charles Plinth.
Making and preparation of soda-water and other liquids impregnated with carbonic acid gas.	3619	28th June 1814	William Francis Hamilton.
Combined neutral salt powder, called Seidlitz powder.	3954	23rd Aug. 1815	Thomas Field Savory.
Producing and preserving artificial mineral waters; } machinery to effect the same - - - - }	4851	9th Oct. 1823	{ Edward Schmidt Swaine Frederick Adolphus Augustus Streeve. Edward Swaine.
Machinery for making soda-water and other aërated waters or liquids.	6238	8th March 1832	Frederick Collier Bakewell.
Producing and preserving artificial mineral waters; machinery to effect the same.	7384	6th June 1837	Edward Schmidt Swaine.
Aërated waters - - - - -	7652	24th May 1838	Charles Searle.
Means and apparatus for making gaseous liquids -	7899	6th Dec. 1838	Miles Berry.
Machinery for impregnating liquids with gas - -	8421	7th March 1840	Hayward Tylor.
Apparatus for combining ammonia, carbonic acid, and other gases, with liquids.	9156	11th Nov. 1841	James Young.
Chalybeate water - - - - -	9401	23rd June 1842	Henry Bewley.
Process of vinous fermentation [employing the gas evolved for the saturation of liquids with carbonic acid].	9512	8th Nov. 1842	Arthur Harvie.
Producing aërated liquors - - - - -	9545	8th Dec. 1842	{ George Purt. William Hale.
Preparing aërated water - - - - -	9618	31st Jan. 1843	William Maugham.
Apparatus for impregnating liquids with gases -	9626	11th Feb. 1843	Robert Hicks.
Manufacture of aërated liquors - - - - -	9713	25th April 1843	{ William Mayo. John Warmington.
Impregnating liquids with gases - - - - -	10,698	3rd June 1845	Moses Poole.
Apparatus for impregnating liquids with gases -	10,925	4th Nov. 1845	William Thomas.
Manufacture of aërated waters - - - - -	10,980	4th Dec. 1845	Archibald Dunlop, junior.
Preparing aërated water - - - - -	10,999	10th Dec. 1845	Frederick Gye, junior.
Manufacture of aërated liquids - - - - -	11,223	26th May 1846	William Mayo.
Manufacture of aërated liquids; apparatus used for such manufacture.	11,471	1st Dec. 1846	William Mayo.
Machinery for making soda-water and other aërated water and liquids.	11,957	11th Nov. 1847	Frederick Collier Bakewell.
Chalybeate water - - - - -	12,141	27th April 1848	Charles Fielding Palmer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AERATED LIQUORS, &amp;c.—continued.</b>			
Apparatus for making aerated waters - - -	12,330	18th Nov. 1848	Thomas Masters.
Machinery or apparatus for manufacturing aerated waters or other such liquids.	13,125	11th June 1850	William Cox.
Construction of apparatus for manufacturing soda-water and other aerated waters.	13,455	16th Jan. 1851	Charles Cowper.
Apparatus for manufacturing soda-water and other gaseous liquids.	13,525	24th Feb. 1851	Gabriel Didier Fevre.
Apparatus for aerating liquids; ornamenting such apparatus [ <i>by an electro-galvanic process</i> ].	14,300	23rd Sept. 1852	François Mathieu.
<b>II.—Bottling and drawing off Aerated Liquors; also Vessels for containing Aerated Liquors.</b>			
Construction of a vessel, machine, cylinder, reservoir, or fountain for the delivery of artificial and mineral soda-waters ("Regency portable Fountain").	3680	13th April 1813	Charles Plinth.
Pump or apparatus for drawing off soda-water and other liquids impregnated with air.	3805	27th April 1814	David Grant.
Filling bottles with gaseous liquids; retaining or emptying them.	7899	6th Dec. 1838	Miles Berry.
Bottles for retaining, keeping, and preserving liquids impregnated with gas; filling and closing such bottles.	8421	7th March 1838	Hayward Tylor.
Bottles for containing gaseous liquors - - -	9626	11th Feb. 1843	Robert Hicks.
Vessels used for containing aerated liquors - -	9713	25th April 1843	{ William Mayo. John Warmington.
Construction of vessels for holding aerated liquids; introducing such liquids into the said vessels, and retaining them therein.	10,148	18th April 1844	James Murdoch.
Drawing off liquids impregnated with gases from vessels containing the same, and closing such vessels.	10,698	3rd June 1845	Moses Poole.
Vessels to contain aerated and mineral waters -	10,999	10th Dec. 1845	Frederick Gye, junior.
Bottling aerated and other liquids - - -	11,223	26th May 1846	William Mayo.
Apparatus for charging bottles and other vessels with gaseous fluid; also for drawing off liquids.	12,380	18th Nov. 1848	Thomas Masters.
Apparatus for retaining and drawing off soda-water and other aerated liquors.	13,455	16th Jan. 1851	Charles Cowper.
Apparatus for containing soda-water and other gaseous liquids, and also preserving other substances from evaporation.	13,525	24th Feb. 1851	Gabriel Didier Fevre.
Apparatus for holding and drawing off aerated liquors; and machinery for filling vessels with aerated liquors.	13,796	3rd Nov. 1851	François Marie Lafoa.
Retaining and drawing off aerated and other liquids; charging vessels with gaseous fluids;—applicable to vessels for holding solid matters.	13,857	11th Dec. 1851	Thomas Masters.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AERIAL CONVEYANCES.</b>			
Aërial conveyances and vessels to be steered by philosophical, chemical, or mechanical means, which means are also applicable to the propelling of vessels through water, and carriages or other conveyances by land - - - - -	3909	25th April 1815	{ Jean Samuel Paufy. Durs Egg.
Apparatus and machinery for conveying letters, goods, and passengers from place to place through the air.	9478	29th Sept. 1842	Samuel Henson.
Moving floating bodies through air - - - -	9598	19th Jan. 1843	Thomas Sunderland.
Conveying goods, passengers, or intelligence [ <i>through the air</i> ].	9642	21st Feb. 1843	Lawrence Holker Potts.
Obtaining aërial locomotion [ <i>aërial conveyance</i> ] -	9856	26th July 1843	William Crofton Moat.
Aërial locomotion [ <i>aërial conveyance</i> ] - - -	11,578	15th Feb. 1847	William Edward Newton.
Aërial machines and machinery in connection with the buoyant power produced by gaseous matter.	12,887	23rd Nov. 1848	Hugh Bell.
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<b>AGRICULTURE.</b>			
<b>I.—Tilling and preparing Land.</b>			
Making the earth more fertile - - - - -	50	21st Jan. 1630	David Ramsey.
Ways and inventions for the better cultivation of land, altering the superficies of some grounds, enlarging rivers, and raising low and marshy ground.	125	12th March 1640	Robert Chiver.
Machines made of wood and metal, and worked by fire, water or air, useful for agricultural purposes.	921	14th March 1767	Francis Moore.
Machine made of wood and metal, and moved by power, useful for agricultural purposes.	933	13th July 1769	Francis Moore.
Machine for digging up ground - - - - -	1461	28th Jan. 1785	Van Thornhoff.
Machines for the cultivation or tillage of land -	2320	18th June 1799	John Hayes.
Tilling and dressing land; cultivation of plants -	3095	13th Jan. 1808	Willis Earle.
Making machines for performing agricultural operations by mechanical powers.	2309	26th Feb. 1810	Major Pratt.
Apparatus for the culture and tillage of land - -	4266	26th May 1818	John Dyson.
Machine for cutting and preparing ley ground for tillage, and for renewing grass and other lands without destroying or tearing up the whole of the surface [ <i>a rotary scarifier</i> ] - - - - -	4553	1st May 1821	{ William Thomas. Joseph Lobb.
Draining and cultivating land; machinery and apparatus applicable thereto.	6267	15th May 1832	John Heathcoat.
Cultivation of land - - - - -	7413	2nd Aug. 1837	Archibald Richard Francis Rosser.
Tilling and fertilizing land - - - - -	7446	14th Oct. 1837	Thomas Vaux.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURE—continued.</b>			
Tilling and fertilizing land . . . . .	7624	24th April 1838	Thomas Vaux.
Tilling and fertilizing land . . . . .	7805	15th Dec. 1838	Thomas Vaux.
Machinery for preparing land and depositing grains, seeds, and manure.	8968	25th May 1841	William Lewis Rham.
Machinery for rolling and crushing land; machinery for the culture of grass land.	9082	8th Sept. 1841	William Crosskill.
Machinery for tilling land . . . . .	9402	6th July 1842	Joseph Hall.
Machinery for tilling land . . . . .	9405	7th July 1842	Lady Ann Vavasour.
Machinery for rolling or crushing ground;—may also be applied to other uses.	10,172	30th April 1844	William Colborne Cambridge.
Construction and arrangement of machinery for breaking up and raking land . . . . .	10,356	17th Oct. 1844	{ Frederick Herbert Maberly Stephen Geary. Joseph Croucher.
Machinery to be used for drain-cutting and sub-soiling.	10,483	21st Jan. 1845	John Seller.
Machinery for crushing, tearing, and pulverizing arable land.	10,693	31st May 1845	John Naylor.
Apparatus and machinery for tilling land . . .	10,730	23rd June 1845	William Morris.
Machinery for tilling land . . . . .	10,934	11th Nov. 1845	Christopher Vaux.
Tilling land . . . . .	11,286	10th July 1846	Robert Beart.
Machinery for tilling land . . . . .	11,297	15th July 1846	{ Thomas Bonser. Edwin Watkins Williams Wynn Pettitt.
Power-machines for tilling, draining, and otherwise cultivating land; mode of working the same.	11,304	23rd July 1846	John Tulloch Osborn.
Certain implements for the cultivation of land .	11,536	19th Jan. 1847	John Read.
Preparing and constructing land; implements to be used therein . . . . .	11,698	8th May 1847	{ Amos Bryant. Richard Tothill.
Apparatus for the cultivation of land . . . . .	11,779	3rd July 1847	George Augustus Huddart.
Raising subsoils to the surface of land . . . .	11,818	29th July 1847	Joseph Paul.
Machinery applicable to tillage and other agricultural purposes.	11,907	14th Oct. 1847	Sir John Scott Lillie.
Instrument for preparing lands in various ways for agricultural purposes.	11,911	14th Oct. 1847	John Thang Harradine.
Machinery for tilling and working land . . . .	11,977	25th Nov. 1847	Pierre Philippe Celestin Barrat.
Machinery for tilling land . . . . .	12,710	18th July 1849	James Usher.
Machinery or apparatus applicable to agricultural and sanitary purposes.	12,907	19th Dec. 1849	Joseph Whitworth.
Cultivating land; implements used therein . .	12,921	11th Jan. 1850	Samuel Newington.
Apparatus and management for cultivating and manuring the soil [ <i>steam digging machine</i> ].	13,159	3rd July 1850	Paul Rapsey Hodge.
Machinery for crushing or pressing land; applying steam powers to agricultural machinery.	13,168	4th July 1850	Weston Tuxford.
Machinery and apparatus for cutting, digging, or turning up earth;—applicable to agricultural purposes.	13,222	12th Aug. 1850	George Thompson.
Certain agricultural implements . . . . .	13,382	23rd Nov. 1850	James Bendall.
Agricultural machines . . . . .	13,398	7th Dec. 1850	Richard Archibald Brooman.
Machinery for digging, tilling, or working land .	13,564	24th March 1851	George Guthrie.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURE—continued.</b>			
Agricultural implement [ <i>revolving cutter or blades to till the soil</i> ].	13,757	25th Sept. 1851	David Stephens Brown.
Manufacture of parts of agricultural implements, chains, roller-guides, and throstle-bars, by the application of materials not before made use of for the purpose [ <i>this part of the patent was disclaimed</i> ].	13,773	16th Oct. 1851	William Onions.
Machinery for pulverizing and preparing land -	13,776	16th Oct. 1851	Matthew Gibson.
Agricultural implements - - - - -	13,836	1st Dec. 1851	William Exall.
Agricultural instruments [ <i>digging machine or rotary cutter</i> ].	13,943	31st Jan. 1852	Martyn John Roberts.
Pulverizing land - - - - -	14,201	6th July 1852	Moses Poole.
[ <i>For Draining Land, see "WATER AND OTHER FLUIDS."</i> ]			
<b>II.—Ploughs and Ploughing.</b>			
Engines and other inventions to plough grounds, whether inland or upland, and to fertilize barren peat and sea-sands - - - - -	6	17th Jan. 1618	{ David Ramsey. Thomas Wildgosse.
Ploughing - - - - -	27	27th Nov. 1623	Alexander Hamilton.
Engine for earing, ploughing, and tilling land, by the labour of two men, without the aid of oxen or horses - - - - -	39	6th Aug. 1627	{ William Brouncker. John Aprice. William Parham.
Engines for ploughing land without the use of oxen or horses - - - - -	72	17th July 1634	{ William Parham. John Prewett. Ambrose Prewett. Thomas Dorney.
Ploughs - - - - -	518	21st Sept. 1730	{ Disney Stanyforth. Joseph Foljambe.
Ploughs - - - - -	961	1st June 1770	Francis Moore.
Machine for ploughing land - - - - -	1349	13th Jan. 1783	James Cooke.
Making ploughshares of cast-iron, which are tempered after a peculiar manner, so as to stand the strictest proof.	1468	18th March 1785	Robert Ransome.
Sward-cutter, or machine for bringing old grass grounds into tillage.	1657	30th June 1788	The Honourable Robert Sandilands.
Machine for ploughing land - - - - -	1659	12th Aug. 1788	James Cooke.
Construction of ploughs - - - - -	1824	16th Aug. 1791	Thomas Merricks.
Making ploughshares and share-beds - - - - -	1873	26th April 1792	James Smart.
Plough for paring land - - - - -	2238	25th May 1798	William Sanxter.
Plough or machine for draining land - - - - -	2373	4th Feb. 1800	Richard Lumbert.
Plough - - - - -	2443	18th Oct. 1800	William Plenty.
Double-furrowed plough - - - - -	2579	6th Feb. 1802	John Southey Lord Somerville.
Plough - - - - -	2655	30th Oct. 1802	James How.
Making and tempering cast-iron ploughshares, and other articles of cast-iron, for agricultural purposes.	2736	24th Sept. 1803	Robert Ransome.
Machine for preparing land for the reception of seed.	2905	23rd Jan. 1806	Robert Berriman.
Wheel and swing plough - - - - -	3139	30th May 1808	Robert Ransome.
Plough - - - - -	3237	30th May 1809	Edward Manley.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURE—continued.</b>			
Plough for underdraining land - - - -	3242	8th June 1809	Mark Dobito.
Plough for draining land; machines for drawing the same through the ground.	3343	8th June 1810	George Hickford.
Construction of ploughs for the cultivation of land	3389	8th Oct. 1810	John Hazledine.
Plough for cultivation of land - - - -	3422	26th March 1811	Ann Hazledine.
Making and working ploughs - - - -	3708	15th June 1813	William Cooke.
Ploughs - - - - -	3739	23rd Sept. 1813	Henry Liston.
Ploughs - - - - -	3848	5th Oct. 1814	Richard Phillips.
Swing wheel-ploughs, plough-carriages, and plough-shares.	3928	14th June 1815	Robert Brown.
Ploughs - - - - -	3955	23rd Aug. 1815	Robert William Bemman.
Plough, or agricultural implement answering a two-fold purpose, so that land or ground may be thereby both pared and ploughed.	3971	22nd Dec. 1815	William Plenty.
Construction of ploughs and other instruments used in husbandry, to be moved by steam, heated air, or vapours.	3973	9th Jan. 1816	Joseph Reynolds.
Swing and wheel plough-carriages and plough-shares.	4004	23rd March 1816	Samuel Brown.
Ploughs - - - - -	4038	1st June 1816	James Ransome.
Ploughs - - - - -	4136	5th July 1817	Thomas Wedlake.
Ploughs - - - - -	4153	5th Aug. 1817	Denis MacCarthy.
Ploughs - - - - -	4338	26th Jan. 1819	Matthew Thomas.
Machines or ploughs for underdraining land - -	4372	18th May 1819	Tew Cowper.
Ploughs [ <i>mode of attaching the share to the sole of the plough</i> ] - - - - -	4513	28th Nov. 1820	{ James Ransome. Robert Ransome.
Agricultural ploughs [ <i>forming the breasts of ploughs suited to different soils</i> ].	4809	5th July 1823	George Clymer.
Ploughs - - - - -	4852	9th Oct. 1823	John Finlayson.
Ploughs [ <i>form and construction of iron ploughs</i> ] -	4888	15th Jan. 1824	John Finlayson.
Ploughs or additions to ploughs [ <i>affording various adjustments as to draught, depth, and turning</i> ].	5481	4th April 1827	Henry Asprey Stothert.
Construction of and machinery for locomotive ploughs, and other machines and carriages.	5950	1st July 1830	John Henry Clive.
Ploughs, particularly the shares applicable to the same, and to other ploughs.	6284	19th July 1832	Thomas Robert Wedlake.
Manufacturing certain parts of ploughs - -	6918	2nd Nov. 1835	{ John Springall. Robert Ransome.
Ploughs - - - - -	7425	28th Aug. 1837	William Armstrong.
Applying steam-power to ploughing, and for other agricultural purposes.	7458	4th Nov. 1837	John Upton.
Ploughs - - - - -	8004	18th March 1839	{ Alexander Francis Campbell. Charles White.
Ploughs - - - - -	8108	17th June 1839	{ Alexander Francis Campbell. Charles White.
Machinery to be worked by steam or other power, for ploughing, and for other agricultural purposes.	8329	24th Dec. 1839	Alexander MacRae.
Ploughs - - - - -	8397	25th Feb. 1840	Thomas Huckvale.
Ploughs ("Belton Plough") - - - - -	8450	25th March 1840	James Hay.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURE—continued.</b>			
Ploughs - - - - -	8480	16th April 1840	Robert Cooper.
Ploughs and other agricultural implements - -	8517	28th May 1840	{ Alexander Francis Campbell. Charles White.
Ploughs - - - - -	8587	11th July 1840	William Palmer.
Ploughs - - - - -	8587	3rd Aug. 1840	{ John Sanders. William Williams. Samuel Taylor.
Ploughs - - - - -	8780	31st Dec. 1840	William Hensman.
Ploughs - - - - -	8844	15th Feb. 1841	Theophilus Smith.
Ploughs - - - - -	8982	10th June 1841	Edward Hammond Bentall.
Ploughs - - - - -	9341	9th May 1842	Joseph Warren.
Machinery for ploughing, harrowing, and raking } land - - - - -	9474	22nd Sept. 1842	{ John Sanders. William Williams. Samuel Lawrence Taylor. William Armstrong. Evan William David.
Ploughs and apparatus which may be attached thereto for ascertaining the draught of instru- ments used in tilling land.	9789	15th June 1843	Edward Hammond Bentall.
Ploughs for draining, subsoiling, and cultivating land.	9794	21st June 1843	John Read.
Machine for ploughing, harrowing, or tilling land -	9831	13th July 1843	William Edward Newton.
Machinery and apparatus for ploughing and scarify- ing land, and for raking; also construction of whipple-trees - - - - -	9842	15th July 1843	{ Robert Ransome. Charles May. Arthur Biddell. William Worby.
Ploughs - - - - -	9998	28th Dec. 1843	Henry Lowcock.
Applying power for drawing or working ploughs } and other implements and carriages used for agri- cultural purposes - - - - -	10,135	2nd April 1844	{ William Stace. Philip Vallance.
Tilling land [ <i>an improved plough-harrow</i> ] - -	11,286	10th July 1846	Robert Beart.
Power-machines for tilling, draining, and otherwise cultivating land; mode of working the same [ <i>ploughs</i> ].	11,304	23rd July 1846	John Tulloch Osborn.
Implements for ploughing land and clearing land of weeds.	11,311	23rd July 1846	Edward Hammond Bentall.
Apparatus for the cultivation of land [ <i>ploughs</i> ] -	11,779	3rd July 1847	George Augustus Huddart.
Ploughs - - - - -	12,663	20th June 1849	Alexander Francis Campbell.
Apparatus for ploughing land [ <i>steam-plough</i> ] -	12,860	24th Nov. 1849	{ George Callaway. Robert Allée Purkis.
Steam and other ploughs - - - - -	12,930	17th Jan. 1850	Henry Cowing.
Certain agricultural implements [ <i>ploughs</i> ] - -	13,362	23rd Nov. 1850	James Bendall.
Construction of ploughs - - - - -	13,366	30th Nov. 1850	Richard Blakemore.
Ploughs and other implements or machines used in the cultivation of the soil.	13,678	3rd July 1851	James Howard.
Ploughs - - - - -	13,783	23rd Oct. 1851	John Henry Pape.
Construction of ploughs - - - - -	14,043	25th March 1852	Edward Hammond Bentall.
Ploughs [ <i>mode of raising the shares of ploughs when arrived at the end of the furrow; application of another share to break up the track made by the horses</i> ].	14,069	17th April 1852	John Gillett.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURE—continued.</b>			
<b>III.—Harrowing, Hoeling, and Raking.</b>			
Harrowing - - - - -	27	27th Nov. 1623	Alexander Hamilton.
Making hoes for the American and West Indian plantations.	1129	6th July 1776	Richard Dearman.
Drill-harrow, for sowing and harrowing grain, turnip-seed, rape-seed, or any other seed, with regularity, and with the rows from six to thirty-six inches apart.	1523	10th March 1787	Richard Heaton.
Making hoes from rolled steel, and fastening them to handles.	1969	9th Dec. 1793	Wastell Cliffe.
Harrows - - - - -	2223	10th March 1798	William Lester.
Apparatus to be annexed to harrows - - -	2479	17th Feb. 1801	William Wilde.
"Agricultural hoe," for hoeing turnips, and for other farming purposes.	3499	30th Oct. 1811	Richard Lomax Martyn.
Harrows - - - - -	4652	9th Oct. 1823	John Finlayson.
Harrows [ <i>of iron</i> ] - - - - -	4888	15th Jan. 1824	John Finlayson.
Construction of and machinery for locomotive harrows and other machines and carriages.	5950	1st July 1830	John Henry Clive.
"Scarifier," or harrow - - - - -	6434	6th June 1833	Charles Madeley.
Constructing and applying a revolving harrow for agricultural purposes.	7118	13th June 1836	Thomas Vaux.
Applying steam-power to harrowing, and for other agricultural purposes.	7458	4th Nov. 1837	John Upton.
Harrows - - - - -	7623	21st April 1838	Robert Finlayson.
Means and apparatus for destroying weeds and insects in land [ <i>by the application of hot air or steam</i> ].	7866	8th Nov. 1838	John Winrow.
Harrows - - - - -	8083	30th May 1839	William Armstrong.
Harrows, scarifiers, cultivators, and horse-hoes -	8108	17th June 1839	{ Alexander Francis Campbell. Charles White.
Machine to be worked by steam or other power for harrowing, and for other agricultural purposes.	8329	24th Dec. 1839	Alexander MacRae.
Horse rakes and hoes - - - - -	9075	8th Sept. 1841	Joseph Cooke Grant.
Horse-hoes and apparatus for treating and dressing turnips to preserve them from insects.	9092	20th Sept. 1841	Thomas Huckvale.
Horse-hoe for use in agricultural purposes - -	9106	29th Sept. 1841	John White.
Construction of horse-hoes, scarifiers, and drag-rakes and drills, for cultivating land.	9389	13th June 1842	Richard Garrett.
Machinery for harrowing and raking lands - -	9474	22nd Sept. 1842	{ John Sanders. William Williams. Samuel Lawrence Taylor. William Armstrong. Evan William David.
Construction of harrows - - - - -	9820	6th July 1843	Joseph Cooke Grant.
Machinery for harrowing or tilling land - -	9831	13th July 1843	William Edward Newton.
Machinery and apparatus for scarifying and raking } land - - - - -	9842	15th July 1843	{ Robert Ransome. Charles May. Arthur Biddell. William Worby.
Construction and arrangement of hand-rakes and horse-rakes.	10,241	3rd July 1844	Henry Smith.
Construction of harrows - - - - -	10,685	22nd May 1845	Richard Coleman.
Tilling land [ <i>plough-harrow</i> ] - - - - -	11,286	10th July 1846	Robert Beart.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURE—continued.</b>			
Apparatus for the cultivation of land [ <i>harrows</i> ] -	11,779	3rd July 1847	George Augustus Huddart.
Machinery for hoeing and working land -	12,540	28th March 1849	Richard Satchell.
Harrows - - - - -	12,663	20th June 1849	Alexander Francis Campbell.
Horse-hoes for agricultural purposes - -	12,698	7th July 1849	Richard Garrett.
Certain agricultural implements [ <i>scarifiers</i> ] -	13,362	23rd Nov. 1850	James Bendall.
Implements used in the cultivation of the soil [ <i>harrows</i> ].	13,678	3rd July 1851	James Howard.
Implements for hoeing [ <i>revolving hoes</i> ] - -	14,243	29th July 1852	John Martin.
<b>IV.—Manuring.</b>			
Manuring and improving grounds - - -	95	5th July 1636	John Shawe.
Ways, arts, engines, and inventions for husbandry, and liming or gravelling land.	105	17th May 1637	Robert Chiver.
Preparing and applying certain saline bodies and other substances as manures or stimulants to the ground, and also destructive of insects.	2039	28th Feb. 1795	Archibald Earl of Dundonald.
Preserving the manure from cattle and sheep, and applying the same in the cultivation of land.	3350	19th June 1810	George Adams.
Machinery for manuring land - - - -	6919	2nd Nov. 1835	William Keene.
Apparatus for manuring trees, plants, seeds, and roots, and for accelerating and improving their growth - - - -	10,844	2nd Oct. 1845	{ Frederick Rosenborg. John Malam.
Preparing materials used for fertilizing land, and for aiding vegetation.	10,858	6th Oct. 1845	Augustus Julien Van Oost.
Machinery for manuring land - - - -	10,858	9th Oct. 1845	Isaac Hartes.
Applying manure to land - - - -	11,581	16th Feb. 1847	Phillip Henry Holland.
Treating, manuring, or preparing corn, seeds, plants, and trees; also fertilizing land - - - -	11,758	19th June 1847	{ François Henry Bickes. Meyer Henry.
Machinery for applying liquid manure - - -	11,983	1st Dec. 1847	Thomas Chandler.
Method of distributing over land liquids and substances in a liquid or fluent state; apparatus and machinery employed therein.	12,093	11th March 1848	George Coode.
Carts for the distribution of liquid substances -	12,140	27th April 1848	Roger George Salter.
Modes to be used for transmitting and distributing liquids and fluids for agricultural purposes; apparatus connected therewith.	12,496	28th Feb. 1849	Dion de Boucicault.
Manuring land; implements used therein - -	12,921	11th Jan. 1850	Samuel Newington.
Apparatus and management for cultivating and manuring the soil.	13,159	3rd July 1850	Paul Rapsey Hodge.
Machinery for depositing manure - - - -	13,165	3rd July 1850	Richard Hornsby.
Machinery for seeding grain [ <i>depositing manure</i> ] -	14,115	4th May 1852	Richard Jordan Gatling.
[See also "MANURE."]			
<b>V.—Sowing, Drilling, and Planting.</b>			
Sowing, seeding, and setting corn and grain - -	27	27th Nov. 1623	Alexander Hamilton.
Raising and preparing madder for dyeing - -	28	22nd Jan. 1624	William Shipman.
Sowing corn and grain in a much easier way than now usual.	68	29th Jan. 1634	David Ramsey.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURE—continued.</b>			
Setting and planting carrot-roots and carrot-seeds -	115	15th Feb. 1638	Otnell Worsley.
Planting madder - - - - -	160	22nd Sept. 1670	James Smith.
Cultivating a vegetable producing a seed from which oil is obtained.	583	10th April 1742	William Cogan.
Drill to be fixed to the side of a common plough-beam, to sow corn and all kinds of seed.	1305	22nd Aug. 1781	Thomas Proud.
Machine for drilling land, planting and sowing grain, pulse, and seeds mixed with manure or without manure, and harrowing the same.	1349	13th Jan. 1783	James Cooke.
Machine for sowing the seed of every species of vegetable with expedition and regularity, and requiring a less quantity of seed to produce a larger crop than by the common mode.	1424	13th March 1784	John Horn.
Machine for sowing wheat, beans, peas, and other grain and seed, which machine may be fixed to a plough or otherwise.	1446	30th July 1784	Jervas Wright.
Machine, which may be used separately or as an appendage to a plough, for sowing the seed of every species of vegetable with expedition and regularity, and requiring a less quantity of seed to produce a larger crop than by the common mode.	1498	20th Oct. 1785	John Horn.
Machine for drilling seeds, being more expeditious and regular, and requiring a less quantity of seed; is also capable of being regulated so as to increase or decrease the quantity of seed sown.	1563	18th Oct. 1786	George Winter.
Drill-harrow, for sowing and harrowing grain, turnip-seed, rape-seed, or any other seed, with regularity, and with the rows from six to thirty-six inches apart.	1593	10th March 1787	Richard Heaton.
Drill-plough for sowing pulse, grain, and seeds -	1614	3rd July 1787	John Wright.
Machine for drilling land, planting or sowing grain, pulse, and seeds mixed with manure or without manure, and harrowing the same.	1659	12th Aug. 1788	James Cooke.
Drill-machine for sowing grain or any kind of seeds.	1672	29th Oct. 1788	William Hele.
Drill and hoe ploughs - - - - -	1688	20th June 1789	Samuel Ridge.
Engine for sowing grain in rows or drills - -	1693	27th Aug. 1789	Moses Boorn.
Drill for sowing corn, pulse, and seeds - - -	1773	19th Aug. 1790	Christopher Perkins.
Preventing the smut in wheat - - - - -	2193	11th Oct. 1797	Charles Baker.
Machine for setting grain and seeds - - -	2291	26th April 1800	James Richards.
Drill to be fixed to a plough-beam, for drilling or sowing turnips.	2548	3rd Nov. 1801	William Jackson.
Machine for dibbling and drilling grain and pulse -	2630	17th April 1806	Thomas James Plucknett.
Broadcast sowing-machine - - - - -	3764	4th Dec. 1813	Samuel Tyrrell.
Drilling-machine, for drilling beans, turnips, peas, pulse, corn, and seeds of every description.	3943	27th July 1815	William Madcley.
Plough for covering grain with mould when sown -	4113	19th April 1817	Edward Nicholas.
Drills to be affixed to ploughs [consisting of a series of revolving cups, which deliver the seeds in the furrow behind].	4510	1st Nov. 1820	William Swift Torey.
Machine for dibbling grain of all sorts - - -	5498	19th May 1827	Thomas Patrick Coggin.
Machinery for sowing corn, grain, and other seed -	6919	2nd Nov. 1835	William Keene.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURE—continued.</b>			
Drills for drilling corn, grain, seeds, pulse, and manure.	7847	3rd Nov. 1838	Charles Callis Baron Western.
Machine for drilling land or sowing grain and seeds of different descriptions.	7932	11th Jan. 1839	William Newton.
Drilling-machine - - - - -	8043	23rd April 1839	John Miller.
Apparatus for drilling corn, grain, pulse, and manure.	8102	12th June 1839	William Grannsell.
Machine for drilling land and sowing grain and seeds with or without bone or other manure.	8281	25th Nov. 1839	Richard Hornsby.
Machinery for dibbling or setting wheat and other grain or seed - - - - -	8294	2nd Dec. 1839	{ George Saunder. James Wilmot Newberry.
Dibbling corn and seeds - - - - -	8508	12th May 1840	Peter Bradshaw.
Machines for preparing and drilling land, and depositing seeds or manure therein.	8695	22nd Oct. 1840	Richard Edmunds.
Machinery for sowing and depositing grain, seed, and manure.	8968	25th May 1841	William Lewis Rharn.
Setting wheat and other seeds - - - - -	8993	19th June 1841	James Henry Shaw.
Corn drill or machine for sowing seed or grain -	9380	7th June 1842	William Irving.
Construction of drills for cultivating land - -	9389	13th June 1842	Richard Garrett.
Construction of drills for sowing grain, seeds, and manure.	9943	16th Nov. 1843	James Smyth.
Machinery for drilling agricultural produce - -	9960	25th Nov. 1843	Richard Garrett.
Apparatus for planting or setting, drilling or dibbling, corn, seed, pulse, or manure - - -	9984	8th Dec. 1843	{ Henry Vingoe. William Henry Vingoe.
Implements for sowing seed or grain - - -	10,442	18th Dec. 1844	Edward Hammond Bentall.
Dibbling-machinery for planting seeds or grain -	10,525	20th Feb. 1845	John Weatherstone.
Drills for drilling corn, grain, and manure - -	10,742	28th June 1845	James Hall Nalder.
Dibbling-machine - - - - -	10,807	7th Aug. 1845	Dalrymple Crawford.
Drill-plough for seed and manure - - - - -	10,810	9th Aug. 1845	George Brown.
Dibbling-machines - - - - -	10,826	4th Sept. 1845	Charles Lampitt.
Treating seeds and preparing materials used in fertilizing land, and for aiding vegetation [coating the seed with "sulphuro-azoted principles"].	10,853	6th Oct. 1845	Augustus Julien Van Oost.
Machinery for rowing, sowing, and manuring land -	10,859	9th Oct. 1845	Isaac Hartes.
Apparatus for sowing corn or other seeds - -	11,117	5th March 1846	John Fuller.
Machinery for sowing grain and other seeds [drilling-machine combined with a plough-harrow].	11,291	14th July 1846	Odert Gripenberg.
Construction of machines for dibbling and sowing seed, and distributing vegetable substances and manure over land.	11,638	23rd March 1847	Henry Smith.
Machinery for distributing corn and other grain on land.	11,879	30th Sept. 1847	Robert Hawkins Nicholls.
Dibbling or sowing seed - - - - -	11,986	7th Dec. 1847	Samuel Newington.
Machinery or apparatus for depositing corn and seed.	12,086	8th March 1848	George Royce.
Machinery for rowing, sowing, and manuring land -	12,144	2nd May 1848	Isaac Hartes.
Apparatus for dibbling, and for other agricultural purposes.	12,211	11th July 1848	Jesse Ross.
Machinery for depositing seeds - - - - -	12,540	28th March 1849	Richard Satchell.
Drilling-machinery - - - - -	12,698	7th July 1849	Richard Garrett.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURE—continued.</b>			
Sowing, manuring, and cultivating land; implements used therein.	13,021	11th Jan. 1850	Samuel Newington.
Machines for depositing seed - - - -	13,085	30th April 1850	{ Charles May. Robert Leggett.
Machinery for sowing corn and seeds, and depositing manure.	13,165	3rd July 1850	Richard Hornsby.
Treating and preparing potatoes for seed - -	13,284	17th Oct. 1850	George Michiels.
Increasing the produce of autumn wheat [sowing grain in spring to reap in the following year].	13,881	12th June 1851	Felix Charles Victor Léon Levacher d'Urcle.
Sowing, depositing, or distributing seeds over land	13,758	25th Sept. 1851	Ernest Kaemmerer.
Machinery for seeding grain [drill-plough] - -	14,115	4th May 1852	Richard Jordan Gatling.
Treating the seeds of flax and hemp [mode of covering the seeds of flax and hemp with an oily mixture, to promote vegetation].	14,307	30th Sept. 1852	Sarah Lester.
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<b>VI.—Watering and Flooding.</b>			
Engines for conveying water to dry and barren grounds - - - - -	37	20th Jan. 1627	{ Edmund Felton. John Drewe.
Making, setting, and framing spring-doors for the land side of sluices on sandy rivers.	66	7th Jan. 1634	Christian Derrickson.
Machine for submerging dry lands - - - -	281	17th Oct. 1691	Thomas Holland.
Engine for watering barren grounds - - - -	410	8th Nov. 1716	Thomas Holland.
Machine for watering gardens, and for other purposes.	463	26th Feb. 1724	John Dickens.
Machine for supplying and irrigating dry and barren lands.	472	4th Nov. 1724	Robert Bumpstead.
Machine for flooding lands, and for other purposes -	608	11th Feb. 1752	Edward Coleman.
Machine for watering roads, gardens, and lands -	1146	20th Feb. 1777	Solomon Henry.
Raising water for watering lands, and for other purposes.	1620	28th Aug. 1787	Thomas Michell.
Mode of conveying water for flooding lands; applicable to other purposes.	5094	19th Feb. 1825	Edward Lees.
Apparatus for watering and drying trees, plants, seeds, and roots, and for accelerating and improving their growth - - - - -	10,844	2nd Oct. 1845	{ Frederick Rosenborg. John Malam.
Carts for the distribution of liquid substances -	12,140	27th April 1848	Roger George Salter.
Modes to be used for transmitting and distributing liquids and fluids for agricultural purposes; apparatus connected therewith.	12,496	28th Feb. 1849	Dion de Boucicault.
Irrigating land - - - - -	13,285	17th Oct. 1850	John Fowler, junior.
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<b>VII.—Reaping, Mowing, Gathering, and Storing.</b>			
Making scythes with steel blades and iron or steel backs, fixed on with screws or pins.	1843	17th Dec. 1791	Abraham Hill.
Making scythes, sickles, hay-knives, and other edge tools, from a preparation of cast steel and iron united and incorporated together by fire.	2033	19th Jan. 1795	Arnold Wilde.
Machine for cutting wheat and all other corn -	2324	4th July 1799	Joseph Boyce.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURE—continued.</b>			
Machine for cutting standing corn, grass, and the like.	2404	20th May 1800	Robert Meares.
Mowing corn, grass, and other things by means of a machine moving on wheels worked by men or horses.	2859	15th June 1805	Thomas James Plucknett.
Mowing corn, grass, and other things by means of a machine moving on wheels worked by men or horses.	2877	23rd Aug. 1805	Thomas James Plucknett.
Making iron and steel backs for fixing upon and using with the blades of scythes and straw and hay knives.	3070	26th Aug. 1807	Samuel Hill.
Making sickles and reaping-hooks with iron in steel backs fixed upon the blades thereof.	3252	31st July 1809	William Hutton.
Machine for cutting and reaping grass, corn, and other articles.	3468	26th July 1811	Donald Cumming.
Back for scythes, reaping-hooks, straw-knives, and hay-knives.	3795	25th Aug. 1813	Thomas Yate Hunt.
Steam-engine with appendages thereto; mode of applying the same to the driving of all sorts of carriages and machinery.	3817	18th June 1814	Thomas Tindall.
Construction of machines for making hay - - -	3838	23rd Aug. 1814	Robert Salmon.
Manufacture of machines for cutting and gathering in grain and products of the earth.	3844	23rd Sept. 1814	James Dobbs.
Construction of machines for making hay ("Salmon's new patent self-adjusting and manageable hay-machines").	4047	27th July 1816	Robert Salmon.
Processes, utensils, apparatus, machinery, and operations applicable to the preparing, extracting, and preserving various articles of food, the component parts of which utensils, apparatus, and machinery are of different dimensions, proportionate to the different uses in which they are employed, and may be separately applied in preparing, extracting, and preserving food, and in other useful purposes [" <i>Corn Preserver</i> ," or a method of stacking wheat].	5523	12th July 1827	Robert Vazie.
Manufacturing scythe-backs, chaff-knife backs, and hay-knife backs.	5642	26th April 1828	James Griffen.
Machine for drawing hop-poles out of the ground previous to picking the hops [" <i>hop-pole drawer by lever and fulcrum</i> "].	5982	13th Aug. 1830	John Knowles.
Combination and application of machinery for shearing lawns and grass plots [engine in place of scythes, with rotary spiral cutter].	5990	31st Aug. 1830	Edward Budding.
Corn-stack stand - - - - -	6395	7th March 1833	John Springall.
Apparatus and processes for storing, cleansing, and preserving grain.	7842	3rd Nov. 1838	Luke Hebert.
Methods of applying motive-power to the impelling of machinery; applicable to several useful purposes.	8207	26th Aug. 1839	Henry Pinkus.
Machinery for cutting or reaping grass, grain, corn, or other plants or herbs.	8688	2nd Nov. 1840	John Duncan.
Reaping and cutting vegetable substances, as food for cattle.	8962	20th May 1841	Charles Phillips.
Machine for cutting or boring ricks - - -	9742	25th May 1843	John Gillett.
Machine for cutting corn, grass, and other standing or growing crops.	9812	3rd July 1843	Charles Phillips.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURE—continued.</b>			
Machinery for making hay;—applicable to other agricultural purposes.	9813	3rd July 1843	Thomas Wedlake.
Machinery for cutting agricultural products;—may also be applied to other uses.	10,172	30th April 1844	William Colborne Cambridge.
Machinery for reaping and cutting grass, and for other similar purposes.	11,346	22nd Aug. 1846	Matthew Gibson.
Machinery applicable to tillage, and for other agricultural purposes [ <i>mowing</i> ].	11,907	14th Oct. 1847	Sir John Scott Lillie.
Machinery applicable to agricultural and sanitary purposes [ <i>reaping</i> ].	12,907	19th Dec. 1849	Joseph Whitworth.
Agricultural machines [ <i>American reaping-machine</i> ] -	13,398	7th Dec. 1850	Richard Archibald Brooman.
Manufacture of scythes - - - - -	13,594	15th April 1851	Charles Hardy.
Certain agricultural implements; steam-engines and boilers for driving the same [ <i>for reaping grass, &amp;c.</i> ].	13,836	1st Dec. 1851	William Exall.
Machinery for reaping, mowing, and delivering dry or green crops.	13,910	24th Jan. 1852	George Stacey.
Reaping-machines - - - - -	13,924	27th Jan. 1852	William Dray.
Cutting and reaping machines - - - - -	13,962	9th Feb. 1852	Ralph Erington Ridley.
Reaping and mowing machines - - - - -	14,201	6th July 1852	Moses Poole.
Machinery or apparatus for cutting - - - - -	14,211	6th July 1852	Frederick Sang.
Reaping-machines - - - - -	14,219	15th July 1852	{ Charles Burrell. Matthew Gibson.
Machinery for reaping [ <i>rotary cutters</i> ] - - - - -	14,296	18th Sept. 1852	William Smith.
Cutting and reaping machines - - - - -	14,319	7th Oct. 1852	John Reed Randell.
Mowing, cutting, and reaping machines - - - - -	14,321	14th Oct. 1852	Richard Archibald Brooman.
<b>VIII.—Buildings for Agricultural Purposes.</b>			
Feeding cattle and sheep in houses built for their protection from the weather, and moveable by means of wheels and slides, iron railways, or otherwise.	3350	19th June 1810	George Adams.
Apparatus and processes for storing, cleansing, and preserving grain [ <i>a moveable granary</i> ].	7812	3rd Nov. 1838	Luke Hebert.
Portable roof for agricultural and other purposes -	9827	7th July 1843	George Parsons.
Sheepfolds - - - - -	10,685	22nd May 1845	Richard Coleman.
Fitting up granaries and warehouses; getting into condition and preserving therein grain, pulse, seeds, malt, and other perishable articles - - -	11,565	8th Feb. 1847	{ Thomas Du Boulay. John Du Boulay.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURAL PRODUCE.</b>			
<b>X.—Thrashing, winnowing, dressing, and drying Grain.</b>			
Preparation of British barley in the manner of French barley and peas barley.	133	31st Oct. 1661	Eustace Burneby.
Cleaning hop clover from its husk and from coarse grass or wad.	166	3rd Feb. 1672	Richard Haynes.
Engine or mill for the hulling of black pepper or barley - - - - -	195	14th Feb. 1677	{ Edward Nelthorpe. Charles Milson.
Cleaning and curing Indian corn - - - - -	401	25th Nov. 1715	Thomas Masters.
Machine or water-engine for clearing and taking out dust and soil from wheat or other grain.	477	26th April 1725	George Woodroffe.
Machine for cleaning wheat - - - - -	526	22nd March 1731	Robert Barlow.
Thrashing grain with a row of flails fixed in an axis turned backwards and forwards, which thus thrashes the grain on both sides.	544	15th Feb. 1734	Michael Meinzie.
Machine for dressing wheat, malt, and other grain before they are ground, and cleansing them from sand, dust, and smut - - - - -	896	14th March 1768	{ Andrew Meikle. Robert Mackell.
Wire cylinders worked by gear and used in wind or water mills, for dressing wheat, barley, and other grain.	988	13th Oct. 1770	John Milne.
Mills for cleansing, splitting, and dressing beans, peas, wheat, and other grain and flour, and to be worked either by men or horses, wind or water.	1089	12th June 1775	George Rawlinson.
Mill for separating the grain from the ears of corn -	1488	21st June 1785	William Winlaw.
Machine which may be worked by wind, water, or other power, for the purpose of separating corn from the straw.	1645	9th April 1788	Andrew Meikle.
Machine for cleaning, sifting, and dividing wheat, barley, oats, beans, rye, and all other grain and seeds.	1703	19th Sept. 1789	John Crang Hancock.
Machine for thrashing corn - - - - -	1855	27th Feb. 1792	Francis Willoughby.
Machine for thrashing and winnowing corn and grain.	2038	19th Feb. 1795	John Jubb.
Machine for separating grain of all kinds from the straw and refuse, which is capable of being worked by hand or with cattle, and conveyed in the manner of a wheel carriage to any place convenient for its operation, and will in the course thereof protect its contents from the inclemency of the weather; or the same machine, by the alteration of its outward apparatus, may be worked by any power in a fixed situation.	2055	2nd June 1795	Thomas Wigfull.
Machine for thrashing corn - - - - -	2141	25th Oct. 1796	John Stedman.
Machine for blanching and dressing corn - - -	2158	24th Jan. 1797	Robert Ferryman.
Machine for clearing grain from the straw - - -	2186	4th July 1797	John Maule.
Construction of apparatus for clearing grain from straw.	2241	5th June 1798	John Palmer.
Hand engine or machine for thrashing all kind of grain.	2356	9th Nov. 1799	William Tunstall.
Machinery for clearing grain from the ear or stalk, and for other purposes.	2382	6th Dec. 1799	John Palmer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURAL PRODUCE—continued.</b>			
Machine for winnowing or dressing corn or grain for making bread, also for the use of cattle, or for seed.	2416	17th June 1800	John Cooch.
Preventing damage by heat to corn, seeds, and all other merchandise, in ships or warehouses; improving corn damaged by heat or otherwise.	2612	15th April 1802	Henry Gardiner.
Machine for separating corn and seeds from the straw;—partly applicable to other purposes.	2629	19th June 1802	William Lester.
Eradicating smut from wheat - - - -	2721	6th July 1803	{ James Roberts. George Cathery.
Thrashing-machine - - - - -	2757	10th May 1804	Joseph Burrell.
Thrashing-machine with loose beaters - - -	2790	30th Oct. 1804	Thomas Noon.
Machine for separating corn, seeds, and pulse from the straw and chaff.	2808	16th Jan. 1805	William Lester.
Machine for thrashing corn and pulse - - -	2819	5th Feb. 1805	John Ball.
Machine for thrashing corn and pulse - - -	2821	9th Feb. 1805	Christopher Perkins.
Thrashing-machine - - - - -	2897	23rd Nov. 1805	Richard Lumbert.
Making whalebone harps for cleaning corn - -	2965	30th Oct. 1806	Robert Bowman.
Machine for dressing coffee, or barley or other corn, grain, pulse, fruit, seed, and berries.	2980	20th Nov. 1806	James Henckell.
Machine for separating corn, seeds, and pulse from the straw and chaff.	3082	21st Nov. 1807	William Lester.
Thrashing corn, grain, and pulse, and all kinds of seed.	3176	31st Oct. 1808	Phineas Andrews.
Thrashing-machine - - - - -	3294	23rd Jan. 1810	Peter Cox.
Machine for thrashing corn - - - - -	3340	22nd May 1810	John Onions.
Drying malt and all kinds of grain and seeds -	3509	26th Nov. 1811	James Adam.
Winnowing-machine - - - - -	3512	16th Dec. 1811	John Elvey.
Machine for separating corn, grain, and seeds from the straw.	3710	29th June 1813	Thomas Todd.
Machine for separating corn or seeds from the straw or chaff.	3841	17th Sept. 1814	William Lester.
Kiln for drying malt, wheat, oats, barley, and other substances [by means of steam, assisted by air] - }	4133	10th June 1817	{ Thomas Whittle. George Eyton.
Machine for separating corn, grain, and seeds from the straw.	4185	5th Dec. 1817	Joseph Weld.
Winnowing-machines - - - - -	4223	5th Feb. 1818	Nathaniel Smith.
Drying and preparing malt, wheat, and other grain -	4254	5th May 1818	William Bush.
Preparing pearl barley and groats from the corn of barley and oats, for making of beverage.	4657	20th Aug. 1823	Matthias Archibald Robinson.
Machine for thrashing out the seed of hemp and flax; applicable to thrashing out other grains; also for shelling clover and other seeds.	4930	25th March 1824	Namen Goodsell.
Method of restoring foul or smutty wheat, and rendering the same fit for use.	5364	23rd May 1826	Thomas Hughes.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURAL PRODUCE—continued.</b>			
Processes, utensils, apparatus, machinery, and operations applicable to the preparing, extracting, a preserving various articles of food, the component parts of which utensils, apparatus, and machinery are of different dimensions, proportionate to the different uses in which they are employed, and may be separately applied in preparing, extracting, and preserving food, and in other useful purposes [ <i>"Corn Extractor," or a thrashing machine</i> ].	5523	12th July 1827	Robert Vazie.
Machine for cleansing or purifying wheat, grain, or other substances [ <i>by a series of sieves driven by steam</i> ].	5954	6th July 1830	William Wedd Tuxford.
Manufacturing mangel-wurzel, for producing various known articles of commerce.	6249	22nd March 1832	Peter Young.
Bearding or peeling barley - - - - -	6632	24th June 1834	John Chester Lyman.
Machinery for cleansing, purifying, and drying wheat or other grain or seeds.	7111	7th June 1835	Miles Berry.
Preparing and drying grain, seeds, or berries, and manufacturing them into their several products; —applicable to other purposes.	7245	3rd Dec. 1836	Thomas Don.
Machinery or apparatus for hulling, cleansing, dressing, and preparing oats and such other grain; —applicable to other purposes.	7392	30th May 1837	James Partridge Blake.
Machinery for drying corn and other grain and seeds.	7537	11th Jan. 1838	William Southam.
Apparatus and processes for storing, cleaning, and preserving grain.	7842	3rd Nov. 1838	Luke Hebert.
Machine for winnowing and dressing corn and other grain.	8011	23rd March 1839	Thomas Fisher Salter.
Thrashing and winnowing machines - - - - -	8417	7th March 1840	Joseph Atkinson.
Cleaning, decorticating, purifying, and preserving corn and other grain.	8472	15th April 1840	Louis August de St Sylvain Baron de Los Valles.
Thrashing-machinery - - - - -	8648	1st Oct. 1840	Frederick Mackelcan.
Machinery for cleaning wheat and other grain or seeds from smut and other injurious matters.	9761	11th Jan. 1841	William Newton.
Seed and dust disperser applicable to the freeing corn and other plants from insects.	8784	14th Jan. 1841	Joseph Hall.
Constructing thrashing-machines and other agricultural implements.	8808	21st Jan. 1841	William Cooper.
Thrashing-machine - - - - -	8817	28th Jan. 1841	Joseph Pryor.
Apparatus for dressing wheat and other grain -	9299	21st March 1842	Zachariah Parkes.
Thrashing-machines - - - - -	9434	2nd Aug. 1842	John Dry.
Machines for dressing or sifting grain and other substances.	9596	19th Jan. 1843	Luke Hebert.
Machinery for drying wheat, corn, and seeds -	9648	1st March 1843	George Bell.
Machinery for beating, cleansing, and crushing various animal and vegetable materials or substances [ <i>beating or thrashing wheat, oats, peas, beans, and other grains or seeds, and separating extraneous matters therefrom</i> ] - - - - -	9838	10th July 1843	{ George Parsons. Richard Clyburn.
Machinery and apparatus for thrashing for agricultural purposes - - - - -	9842	15th July 1843	{ Robert Ransome. Charles May. Arthur Biddell. William Worby.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURAL PRODUCE—continued.</b>			
Machinery for thrashing agricultural produce -	9980	25th Nov. 1843	Richard Garrett.
Machinery for thrashing agricultural produce; adaptation of horse power to thrashing-machinery, which may also be applied to other purposes.	10,172	30th April 1844	William Colborne Cambridge.
Drying malt, grain, and seeds - - - -	10,459	11th Jan. 1845	George Bell.
Machinery for dressing vegetable substances - -	10,487	21st Jan. 1845	James Tarver.
Machinery for cleaning wheat and other grain or seeds from smut and other injurious matters.	10,597	7th April 1845	John Hick.
Cleaning and separating grain and other seeds -	11,106	25th Feb. 1846	Moses Poole.
Thrashing-machines - - - - -	11,153	25th March 1846	William Carpenter.
Machines for thrashing and winnowing grain and other seeds.	11,309	23rd July 1846	John Boyes.
Machinery for thrashing - - - - -	11,500	21st Dec. 1846	John Jennings.
Preserving grain, pulse, seed, and malt in granaries	11,565	8th Feb. 1847	{ Thomas Du Boulay. John Du Boulay.
Thrashing-machines - - - - -	11,795	17th July 1847	William Hensman.
Thrashing-machines - - - - -	12,080	8th March 1848	William Exall.
Machinery for cleansing corn and seed - - -	12,088	8th March 1848	George Royce.
Machinery for thrashing and dressing corn - -	12,205	10th July 1848	Walter Orbell Palmer.
Machinery for cleansing and polishing pearl barley and other grain and seed.	12,239	14th Aug. 1848	James Henderson.
Preserving animal and vegetable substances from decay [ <i>drying and preserving corn and grain</i> ].	12,250	21st Aug. 1848	John Bethell.
Dressing or cleaning grain, and separating extraneous matters therefrom.	12,254	22nd Aug. 1848	Alfred Vincent Newton.
Machinery for cleaning grain - - - - -	12,283	12th Oct. 1848	John Ashby.
Mode of separating different qualities of potatoes and other vegetables [ <i>by immersing them in a liquid</i> ].	12,324	11th Nov. 1848	James Anderson.
Machinery for thrashing corn and other grain -	12,343	25th Nov. 1848	John Goucher.
Machinery for hulling or polishing grain or seeds -	12,475	13th Feb. 1849	William Edward Newton.
Thrashing-machinery - - - - -	12,698	7th July 1849	Richard Garrett.
Cleansing and treating certain descriptions of wheat	12,774	20th Sept. 1849	Benjamin Wren.
Cleaning corn or grain - - - - -	12,939	24th Jan. 1850	Walter Westrup.
Cleaning wheat - - - - -	12,951	29th Jan. 1850	Joel Spiller.
Mills and machinery applicable to the thrashing of corn and other similar purposes.	13,025	26th March 1850	James Preece.
Machinery for thrashing corn; applying steam power to such machinery - - - -	13,065	30th April 1850	{ Charles May. Robert Leggett.
Machinery or apparatus for cleaning, purifying, and drying wheat and other grain or seeds [ <i>extension of M. Berry's patent for six years, from 7th June 1850</i> ]	13,108	7th June 1850	{ William George Bicknell. James Reignald Torin Graham.
Treating the produce of the soil [ <i>apparatus for cleaning the beard from wheat, rice, or grain</i> ].	13,159	3rd July 1850	Paul Rapsey Hodge.
Thrashing, dressing, or winnowing machines -	13,165	3rd July 1850	Richard Hornsby.
Machinery for shaking straw - - - - -	13,168	4th July 1850	Weston Tuxford.
Thrashing-machines and other machinery worked by animal power.	13,214	6th Aug. 1850	William Crosskill.
Corn-cleaning machines - - - - -	13,301	24th Oct. 1850	Bryan Millington.
Machinery and apparatus for cleansing and otherwise treating grain, seeds, and farinaceous substances.	13,351	16th Nov. 1850	Joseph Martin.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURAL PRODUCE—continued.</b>			
Dressing and cleaning corn and seed - - -	13,405	12th Dec. 1850	George Royce.
Machinery for separating corn from straw - -	13,468	11th Jan. 1851	William Robinson.
Thrashing-machinery - - - - -	13,501	10th Feb. 1851	John Stephens.
Agricultural implements [ <i>thrashing-machines</i> ] -	13,836	1st Dec. 1851	William Exall.
Machinery, apparatus, and processes for the preparation of grain and its conversion into liquors, whether malt, saccharine, vinous, alcoholic, or acetous [ <i>thrashing grain</i> ].	14,119	8th May 1852	William Little Tizard.
Winnowing-machines - - - - -	14,137	22nd May 1852	Alfred Vincent Newton.
Treating the seeds of flax and hemp - - -	14,164	10th June 1852	Michael Joseph John Donlan.
Machine for thrashing, shaking, riddling, and dressing corn.	14,196	3rd July 1852	Richard Hornsby.
Treating cotton-seeds and obtaining products therefrom; processes and machinery employed therein;—partly applicable to distillation.	14,338	2nd Nov. 1852	Joseph Walker.
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<i>(Rice and other Foreign Produce.)</i>			
Husbanding, ordering, and preparing rice and safflower.	159	3rd Feb. 1670	Eustace Burneby.
Machinery for cleaning or dressing paddy, or rough rice.	4340	9th Feb. 1819	Henry Ewbank.
Machinery for cleaning rice [ <i>a toothed shaft revolving in a cylinder provided with teeth in the interior</i> ].	5436	20th Dec. 1826	Melvil Wilson.
Process used in dressing paddy, or rough rice -	5472	10th March 1827	{ Jonathan Lucas. Henry Ewbank.
Preparing or bleaching pepper - - - - -	5568	26th Nov. 1827	John Alexander Fulton.
Method of preparing and cleansing paddy, or rough rice.	5896	6th Feb. 1830	Melvil Wilson.
Preparation of pepper - - - - -	5919	20th March 1830	John Alexander Fulton.
Preparing and cleansing rice - - - - -	5973	5th Aug. 1830	Charles Shiels.
Hulling and cleaning rice and coffee - - -	6632	24th June 1834	John Chester Lyman.
Machinery or apparatus for hulling, cleansing, preparing, or dressing paddy, or rough rice;—applicable to other purposes.	7382	30th May 1837	James Partridge Blake.
Mortar for dressing rough rice or paddy, or re-dressing rice.	7486	25th Nov. 1837	James Jamieson Cordes.
Machinery for dressing fruit - - - - -	11,457	21st Nov. 1846	Christopher Robson.
Machinery for cleansing and polishing rice - -	12,239	14th Aug. 1848	James Henderson.
Machinery for hulling and polishing rice and other grain or seeds.	12,475	13th Feb. 1849	William Edward Newton.
Mills for removing the skin from rice, &c. - -	13,214	6th Aug. 1850	William Crosskill.
Apparatus for cleansing and otherwise treating rice and certain other grains, seeds, and farinaceous substances.	13,331	16th Nov. 1850	Joseph Martin.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURAL PRODUCE—continued.</b>			
<b>II.—Grinding and crushing Corn and other Grain and Seeds.</b>			
Mills for grinding corn . . . . .	111	26th Nov. 1637	{ George Manby. Thomas Liddell.
Engine for grinding corn . . . . .	114	14th Dec. 1637	{ Oliver Lloyd. Mathias Burges. Thomas Barbar.
Water-mills for corn . . . . .	193	12th Jan. 1677	Kenrick Edisbury.
Floating mills for grinding corn . . . . .	217	28th April 1682	John Joachin Becker.
Mill for grinding corn . . . . .	326	9th Oct. 1693	{ Matthew Elliston. Thomas Winter.
Machine for grinding corn . . . . .	412	8th March 1717	John Thompson.
Bush or box for the spindle-neck of a corn-mill to run in.	479	5th June 1725	Richard Newsham.
Engine for grinding corn . . . . .	505	21st Nov. 1728	John Payne.
Machine for grinding corn . . . . .	609	6th Sept. 1744	William Perkins.
Engine for grinding corn . . . . .	653	24th Nov. 1750	William Perkins.
Rolls for grinding grain . . . . .	675	24th Jan. 1753	Isaac Wilkinson.
Machine or mill for grinding wheat, corn, and other grain.	689	24th Dec. 1767	Richard Hayne.
Hand-mill for grinding wheat . . . . .	903	6th Oct. 1768	{ Samuel Freeth. Sampson Freeth.
Pump for grinding corn . . . . .	994	18th July 1771	James Story.
Mill for grinding wheat . . . . .	1090	26th Nov. 1774	Samuel Watson.
Mills for grinding wheat, peas, &c. . . . .	1099	12th June 1775	George Rawlinson.
Making mills for grinding wheat, barley, beans, peas, groats, &c.	1214	22nd March 1779	Richard Dearman.
Mill for grinding corn . . . . .	1263	23rd Aug. 1780	James Pickard.
Machines for grinding grain . . . . .	1567	30th Oct. 1786	Walter Taylor.
Regulator for grinding corn . . . . .	1628	13th Nov. 1787	Thomas Mead.
Machinery for grinding grain . . . . .	1794	3rd March 1791	William Shorland.
Horizontal windmill for grinding corn . . . . .	2076	8th Dec. 1795	Daniel Mounsell.
Machinery for grinding corn . . . . .	2158	24th Jan. 1797	Robert Ferryman.
Apparatus for pulverizing grain . . . . .	2241	5th June 1798	John Palmer.
Steel plates for grinding grain . . . . .	2336	2nd Aug. 1799	{ William Hunt. Wastel Cliffe.
Hand-mill for grinding grain . . . . .	2489	25th April 1801	Thomas Wright.
Floating-mill for grinding grain . . . . .	2533	20th Aug. 1801	Benjamin Hawkins.
Mill for grinding corn . . . . .	2540	18th Sept. 1801	Zachariah Barrett.
Machine for crushing oats and grinding barley . . . . .	2753	9th Feb. 1804	Thomas Passmore.
Manufacture of mustard . . . . .	3142	14th June 1808	William Shotwell.
Rotative engine for grinding corn . . . . .	3256	9th Aug. 1809	Edward Lane.
Machine for splitting beans or any other kind of grain, and various other articles.	3368	2nd Aug. 1810	Charles Williams.
Machinery for grinding corn . . . . .	3796	1st April 1814	George Smart.
Mill or machine for grinding wheat ("French military mill") [ <i>portable</i> ].	4885	8th Jan. 1824	Francis Devereux.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURAL PRODUCE—continued.</b>			
Processes, utensils, apparatus, machinery, and operations applicable to the preparing, extracting, and preserving various articles of food, the component parts of which utensils, apparatus, and machinery are of different dimensions, proportionate to the different uses in which they are employed, and may be separately applied in preparing, extracting, and preserving food, and in other useful purposes [ <i>"Conical Corn-mill," or a portable steel mill</i> ].	5523	12th July 1827	Robert Vazie.
Metallic mills for grinding corn - - - -	6152	11th Aug. 1831	David Selden.
Mills or machines for grinding or reducing grain, &c.	6195	15th Dec. 1831	Claude Marie Savoye.
Mills or machinery to be operated upon by wind for grinding corn.	6831	8th Nov. 1832	John Burlingham.
Machinery for grinding corn, &c. - - - -	6536	1st Jan. 1834	{ Thomas Sharpe. Robert Roberts.
Mills for grinding wheat and other grain - -	6676	13th Sept. 1834	Miles Berry.
Flour-mills - - - - -	6878	10th Aug. 1835	Luke Hebert.
Construction of mills for grinding corn - - -	7594	19th March 1838	William Horsefield.
Mills for reducing grain and other substances to a pulverized state - - - - -	8047	24th Sept. 1840	{ Alexander Dean. Evan Evans.
Apparatus for grinding wheat and other grain -	9299	21st March 1842	Zachariah Parkes.
Machines for grinding grain, &c. - - - -	9596	19th Jan. 1843	Luke Hebert.
Machinery for beating, cleansing, and crushing various animal and vegetable materials or substances [ <i>crushing oats, beans, malt, apples, flax, and other vegetable and animal substances</i> ]	9828	10th July 1843	{ George Parsons. Richard Clyburn.
Machinery for cutting and grinding for agricultural purposes - - - - -	9842	15th July 1843	{ Robert Ransome. Charles May. Arthur Biddell. William Worbey.
Grinding wheat and other substances - - - -	9876	25th Aug. 1843	Bryan Corcoran.
Apparatus for grinding grain, with or without sifter or dresser; also for cobling, bruising, crushing, cutting, splitting, or dividing seed, pulse, berry, or other articles.	10,069	24th Feb. 1844	Francis Studley.
Grinding wheat and other grain - - - - -	10,165	30th April 1844	Robert Gordon.
Machinery for grinding grain - - - - -	10,776	21st July 1845	William Broughton.
Grinding grain and other substances - - - -	11,082	11th Feb. 1846	Alfred Vincent Newton.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>pulverizing vegetable matters</i> ].	11,149	25th March 1846	Charles Smith.
Grinding wheat and other grain - - - - -	11,468	1st Dec. 1846	Jacques Francois Pinel.
Machinery used for watering grain [ <i>prior to its being ground</i> ].	11,571	8th Feb. 1847	John Gedge.
Machinery for grinding grain - - - - -	11,901	14th Oct. 1847	Robert Stirling Newall.
Machinery for grinding corn and seed - - -	12,086	8th March 1848	George Royce.
Corn mill - - - - -	12,424	16th Jan. 1849	Carey M'Clellan.
Mills for grinding wheat and other grain - -	12,506	5th March 1849	Samuel Banks.
Mills for grinding wheat and other grain - -	12,702	9th July 1849	John Goodier.
Grinding corn or grain - - - - -	12,939	24th Jan. 1850	Walter Westrup.
Grinding wheat - - - - -	12,951	29th Jan. 1850	Joel Spiller.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURAL PRODUCE—continued.</b>			
Mills and machinery for grinding corn - - -	13,025	26th March 1850	James Preece.
Grinding wheat and other grain - - -	13,033	5th April 1850	Charles Seely.
Machinery for grinding corn - - -	13,065	30th April 1850	{ Charles May. Robert Leggett.
Grinding corn and other substances - - -	13,070	7th May 1850	George Hurwood.
Mills for grinding, splitting, pulverizing, and crushing grain and other hard substances.	13,214	6th Aug. 1850	William Crosskill.
Certain agricultural implements [ <i>mill for crushing and breaking beans, &amp;c.</i> ]	13,362	23rd Nov. 1850	James Bendall.
Grinding corn and seed - - -	13,405	12th Dec. 1850	George Royce.
Mills for grinding wheat and other grain - -	13,566	24th March 1851	Peter Armand le Comte de Fontainemoreau.
Construction of apparatus for grinding grain and other substances.	13,810	13th Nov. 1851	George Sheppard.
Grinding wheat and other grain - - -	13,867	19th Dec. 1851	Christopher Rands.
Machinery for grinding wheat and other grain -	13,892	8th Jan. 1852	Thomas Barnett.
Manufacturing wheat and other grain into meal and flour [ <i>driving millstones; application of exhausting or blowing machinery to millstones</i> ].	14,220	15th July 1852	George Hinton Bovill.
Treating cotton seeds, &c. - - -	14,338	2nd Nov. 1852	Joseph Walker.
<b>III.—Dressing Flour and Meal.</b>			
Making engines for bolting and dressing meal -	25	31st July 1623	John Rathborne, John Charsley, and others.
Woven-wire engine for bolting, dressing, sifting, and chaffing meal - - -	250	25th June 1686	{ John Finch. John Newcomb. James Butler.
Floating engine for bolting flour by force of water -	412	8th March 1717	John Thompson.
Machine or wire cylinder for dressing flour from wheat, barley, and other grain.	827	10th May 1765	John Milne.
Wire cylinders worked by gear, and used in wind or water mills, for dressing flour.	968	13th Oct. 1770	John Milne.
Mills for cleansing and dressing flour, &c., and to be worked either by men or horses, wind or water.	1099	12th June 1775	George Rawlinson.
Machine for dressing or bolting flour and meal -	1308	24th Dec. 1781	Charles Smith.
Bolting-cloths to be used by millers for the purpose of dressing flour.	1419	19th Dec. 1783	Benjamin Blackmore.
Regulator for dressing flour and meal - - -	1628	15th Nov. 1787	Thomas Mead.
Method of making flour without grain - - -	2806	21st Dec. 1804	Abraham Underdown.
Engine for manufacturing grain into flour, meal, &c.	3532	28th Jan. 1812	Allen Taylor.
Flour for bread, pastry, and other purposes - -	3747	1st Nov. 1813	Thomas Rogers.
Spring to be applied to bolting-mills for dressing flour [ <i>to give tension to the bolting-cloth</i> ].	5102	19th Jan. 1825	James Ayton.
Machinery for dressing flour - - -	5799	4th June 1829	John Smith.
Manufacturing farina from vegetable productions [ <i>carrots, turnips, &amp;c.</i> ]	5877	14th Dec. 1829	Benjamin Goulson.
Preparation of certain substances; "British Tapioca," and the cakes and flour made from the same [ <i>prepared from potatoes and other roots</i> ].	5928	24th April 1830	John MacInnes.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURAL PRODUCE—continued.</b>			
Preparing rough meal from ground wheat or other grain before dressing; also rough meal from ground barley, malt, or other grain, previous to their being put into the mash-tun, for brewing or distilling.	8268	3rd May 1832	George Goodlet,
Apparatus for dressing or bolting pulverized substances - - - - -	8647	24th Sept. 1840	{ Alexander Dean. Evan Evans.
Flour-mills - - - - -	9098	23rd Sept. 1841	George Scott.
Preparing flour from grain and potatoes by machinery.	9471	15th Sept. 1842	Frederick Bowles.
Machinery for the manufacture of farina - -	9589	14th Jan. 1843	William Snell.
Machine for bolting, dressing, and separating flour, meal, and other like substances.	9648	1st March 1843	George Bell.
Progressive manufacture of grain into flour or meal	9714	27th April 1843	Charles Forster Cotterill.
Dressing flour or meal - - - - -	10,185	30th April 1844	Robert Gordon.
Preparation and application of various farinaceous products; machinery used in manufacturing the same [making flour from potatoes].	10,444	20th Dec. 1844	James Thompson.
Manufacture of grain into flour or meal - -	10,502	28th Jan. 1845	Edwin Rose.
Preparation of flour for certain purposes - -	10,555	13th March 1845	Henry Jones.
Manufacture of flour - - - - -	11,176	25th April 1846	William Ashby.
Flour-mills; machinery connected therewith -	11,239	6th June 1846	John Taylor.
Manufacturing wheat and other grain into meal and flour.	11,342	18th Aug. 1846	George Hinton Bovill.
Machinery for obtaining and applying, accelerating and retarding, motive-power [machine for dressing flour] - - - - -	11,442	5th Nov. 1846	{ Frederick Herbert Maberly. Thomas Branwhite. Dennis Lusher.
Preparing flour - - - - -	12,030	18th Jan. 1848	Thomas Robert Sewell.
Machinery for dressing meal - - - - -	12,283	12th Oct. 1848	John Ashby.
Manufacture of flour applicable to the making of bread, biscuits, and pastry.	12,510	14th March 1849	John Smith.
Manufacturing wheat and other grain into flour -	12,636	5th June 1849	George Hinton Bovill.
Dressing meal or flour - - - - -	12,939	24th Jan. 1850	Walter Westrup.
Dressing bran, pollard, and sharps - - -	13,107	6th June 1850	James Alexander Hamilton Bell.
Bolters - - - - -	13,155	27th June 1850	Joseph Foot.
Flour-dressing machines - - - - -	13,301	24th Oct. 1850	Byran Millington.
Dressing flour - - - - -	13,348	14th Nov. 1850	Thomas Shore.
Manufacturing wheat and other grain into meal and flour [drying flour by steam or hot-air apparatus; steaming flour; washing and then drying corn by currents of air].	14,220	15th July 1852	George Hinton Bovill.
<b>IV.—Apparatus used in filling Flour-sacks; also Fastenings for Flour-sacks.</b>			
Apparatus for holding sacks, to facilitate the filling them with corn or other materials.	11,719	27th May 1847	Henry Gilbert.
Sack-holders - - - - -	12,235	10th Aug. 1848	Joshua Cooch.
Fastenings for the mouths of sacks and bags -	12,700	9th July 1849	Thomas Sedgwick Summers.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURAL PRODUCE—continued.</b>			
<b>V.—Fodder cutting; also preparing Compositions as Food for Cattle.</b>			
Compounds of sundry wholesome ingredients for feeding swine - - - - - }	531	1st June 1731	{ Thomas Ryley. John Beaumont.
Making steel knives with iron backs, for cutting hay and straw.	1072	18th Dec. 1793	Abraham Hill.
Knife-plate, weight, and regulator, to be used with a machine for cutting straw and hay into chaff.	1978	8th Jan. 1794	James Cooke.
Making and manufacturing hay-knives from a preparation of cast steel and iron, united and incorporated together by fire.	2033	19th Jan. 1795	Arnold Wilde.
Cutting straw into chaff; cutting unthrashed grain; cutting wheat, oats, or other grain in the ear, with clover or other grass.	2053	2nd June 1795	William Naylor.
Machine for cutting straw into provender for cattle and for other purposes.	2362	6th Dec. 1799	John Palmer.
Machine for cutting hay and straw into chaff for the use of cattle.	2375	4th Feb. 1800	William Lester.
Machine for cutting hay and straw into chaff - -	2480	17th Feb. 1801	William Lester.
Machine for cutting straw as fodder for cattle - -	2637	23rd July 1802	Thomas Sawdon.
Machine for cutting turnips, cabbages, carrots, and other roots for feeding cattle.	2716	21st June 1803	Thomas Brown.
Machine for chopping straw and for splitting beans -	2753	9th Feb. 1804	Thomas Passmore.
Making iron and steel backs for fixing upon and using with the blades of scythes and straw and hay knives.	3070	26th Aug. 1807	Samuel Hill.
Engine for cutting hay and straw into chaff, and for cutting other articles.	3108	4th Feb. 1808	William Francis Snowden.
Compound substance or cake, for feeding horses and other animals.	3229	20th April 1809	Matthias Wilks.
Machine for cutting hay and straw - - -	3926	14th June 1815	James Gardner.
Machine for cutting or reducing various articles into chaff, as dry fodder for horses and cattle.	4234	7th March 1818	Thomas Heppenstall.
Machine to cut straw [ <i>also cutting chaff</i> ] - - -	4407	1st Nov. 1819	Samuel Shorthouse.
Construction of straw-knives, and other implements requiring a metallic back.	4814	15th July 1823	Bennington Gill.
Manufacturing scythe-backs, chaff-knife backs, and hay-knife backs.	5642	26th April 1828	James Griffin.
Machines for cutting turnips, mangel-wurzel, and other roots used as food for sheep, cattle, and other animals.	6684	25th Sept. 1834	James Gardner.
Machines for cutting turnips, mangel-wurzel, and other roots used as food for sheep, cattle, and other animals.	7373	11th Jan. 1837	James Gardner.
Machinery for cutting turnips, mangel-wurzel, and other roots used as food for sheep, cattle, and other animals.	7904	12th Dec. 1838	James Gardner.
Machinery for preparing turnips, carrots, parsnips, potatoes, and other bulbous roots as food for cattle.	8265	7th Nov. 1839	Edmund Moody.
Making bread [ <i>a coarse bread without yeast, for cattle</i> ].	8443	25th March 1840	Samuel Hill.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURAL PRODUCE—continued.</b>			
Machinery for cutting and preparing straw, hay, and other vegetable matters.	8560	6th July 1840	Charles May.
Machinery for cutting vegetable substances - - -	8578	29th July 1840	John Swain Worth.
Machinery for cutting vegetable and other substances - - - - -	8660	5th Oct. 1840	{ Henry George Francis Earl of Ducie. Richard Clyburn. Edwin Budding.
Manufacture of oil-cake or seed-cake - - - -	8920	5th April 1841	William Hutchinson.
Machinery for cutting certain vegetable substances -	8944	29th April 1841	George Townshend.
Cutting vegetable substances as food for cattle -	8962	20th May 1841	Charles Phillips.
Method of extracting or manufacturing from a certain vegetable substance, certain materials applicable to the purpose of affording light and other uses [ <i>expressing oil from coco-nuts, and producing oil-cake from the residue</i> ].	9230	19th Jan. 1842	William Tindall.
Machinery for cutting turnips, mangel-wurzel, carrots, and other roots, for food for horned cattle, horses, and other animals.	9278	7th March 1842	John Green, junior.
Making and preparing food for cattle - - - -	9309	31st March 1842	Joseph Clisild Daniell.
Machinery for cutting food for animals - - - -	9474	22nd Sept. 1842	{ John Sanders. William Williams. Samuel Lawrence Taylor. William Armstrong. Evan William David.
Cutting hay, straw, and other vegetable matters for the food of animals.	9500	27th Oct. 1842	James Gardner.
Cutting hay, straw, and other vegetable matters for the food of animals.	9701	17th June 1843	James Gardner.
Machinery for cutting vegetable substances as food for cattle.	9812	3rd July 1843	Charles Phillips.
Machinery for cutting agricultural produce [ <i>chaff-cutting machine</i> ].	9860	25th Nov. 1843	Richard Garrett.
Machinery for cutting vegetable substances - - -	10,241	3rd July 1844	Henry Smith.
Machinery for cutting, grinding, and dressing vegetable substances.	10,487	21st Jan. 1845	James Tarver.
Cutting, slicing, grinding, and rasping machine -	10,691	29th May 1845	Charles William Firchild.
Manufacture of oil-cake; machinery and processes for pressing and moulding the same;—applicable to the manufacture of other articles from plastic materials.	11,136	18th March 1846	John Longbottom.
Preparing food for animals when Indian corn is used	11,169	15th April 1846	Henry Mandeville Meade.
Machine for cutting, slicing, and otherwise dividing, hay, straw, turnips, and other vegetable substances.	11,172	18th April 1846	John Gillett.
Machinery for cutting and separating vegetable substances.	11,638	23rd March 1847	Henry Smith.
Instrument to be used in <i>crushing</i> or expressing oil from vegetable and other substances, and in making oil-cake, and which instrument is applicable to the moulding, pressing, and manufacturing the same, and other articles from plastic materials. [The words printed in <i>italics</i> were disclaimed.]	11,660	15th April 1847	James Robson.
Machines for cutting hay and straw into chaff, and for cutting other vegetable substances.	12,346	29th Nov. 1848	William Rothwell Lomax.
Machinery for cutting straw, clover, and hay - -	12,704	12th July 1849	{ George Cottam. Edward Cottam.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AGRICULTURAL PRODUCE—continued.</b>			
Machinery for cutting straw and similar substances	13,065	30th April 1850	{ Charles May. Robert Leggett.
Apparatus for cutting turnips, and other similar substances, as food for cattle.	13,164	3rd July 1850	Charles Phillips.
Certain agricultural implements [ <i>turnip-cutting machine</i> ].	13,362	23rd Nov. 1850	James Bendall.
Machinery for cutting turnips and other substances	13,466	21st Jan. 1851	William Burgess.
Apparatus for cutting turnips, carrots, mangel-wurzel, and other vegetables.	13,472	23rd Jan. 1851	Alexander Samuelson.
Machinery for cutting and splitting wood and other substances [ <i>chisels or cutters for slicing or chopping vegetable substances; also chaff-cutting machinery</i> ].	13,868	19th Dec. 1851	James Frederick Lackenstein.
Cutting and slicing machine [ <i>for preparing food for cattle</i> ].	14,316	7th Oct. 1852	Alexander Shairp.
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<b>AIR AND WIND ;—AIR AND GAS ENGINES AND WINDMILLS.</b>			
<b>I.—Blowing Air; Blast Engines and Bellows.</b>			
Making double hand-bellows for producing a continual blast, by the power of springs and screws, sufficient to melt any sort of metal in a common wood or coal fire, and thus preclude the necessity of making assay furnaces.	379	— — 1706	Thomas Savery.
Bellows of cast metal for forges, furnaces, or any other works.	565	8th July 1738	Isaac Wilkinson.
Machine or bellows to be wrought by water or fire engines.	713	12th March 1757	Isaac Wilkinson.
Making and drawing iron and other metals by a new kind of wood bellows.	763	13th Dec. 1762	James Knight.
New-invented forge back; tew iron and frame on a new construction, for conveying wind by the blast of bellows or otherwise.	1362	25th March 1783	John Bradley.
Applying an elementary or physical power to blast furnaces and other works where power is required.	2272	27th Nov. 1798	Robert Hindmarsh.
Making and working forge and other bellows - -	3326	6th April 1810	James Fussell.
Making and working bellows - - - -	3448	21st May 1811	John Street.
Instrument named Hydrostatic Self-blowing Machine	3856	22nd Nov. 1814	Robert Barlow.
Making and working bellows - - - -	3849	11th Aug. 1815	John Street.
Blast-engines - - - - -	4256	7th May 1818	{ Thomas Jones. Charles Plimley.
Propelling and construction of engines applicable to propelling and to other purposes [ <i>also well adapted for blowing-engines</i> ].	4462	15th May 1820	John Barton.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AIR AND WIND, &amp;c.—continued.</b>			
Blowing-machine for fusing and heating metals, smelting ores, and supplying blast for various other purposes.	4518	14th Dec. 1820	George Vaughan.
Production of heat by the application of known principles [ <i>a blowing-machine</i> ].	4646	12th Feb. 1822	George Holworthy Palmer.
Increasing the force or power of bellows - - -	4740	20th Dec. 1822	Thomas Linley.
Bellows or apparatus to be used with forges, or separately [ <i>rendered portable for the camp, or deck of a ship</i> ].	5115	5th March 1825	William Halley.
Apparatus for exhausting, condensing, or propelling air, smoke, gas, or other æriform products [ <i>pump for exhausting or bellows for injecting air</i> ].	5146	2nd April 1825	Simeon Broadmeadow.
Blowing-machine - - - - -	5182	7th June 1825	Charles Powell.
Piece of machinery to combine with parts of blowing-machines	5755	14th Jan. 1829	Thomas Smith.
Blowing and exhausting air;—applicable to various purposes.	6275	9th June 1832	Jacob Perkins.
Blowing-machines - - - - -	6365	15th Jan. 1833	Alexander Clark.
Blowing-pipe of blast furnaces and forges - -	7194	28th Sept. 1836	John Isaac Hawkins.
Increasing the power of certain media when acted upon by rotary fans or other similar apparatus [ <i>blowing-engine</i> ].	8896	22nd March 1841	Morris West Ruthven.
Supplying and regulating the supply of air to the furnaces of locomotive engines.	9315	6th April 1842	Jean George Sue Clarke.
Improvements in accelerating combustion, which may be applied in place of the blowing-machines now in use.	9480	29th July 1842	Jules Lejeune.
Stationary engines and apparatus to be connected therewith, for blowing or exhausting air.	9702	20th April 1843	John George Bodmer.
Hydraulic apparatus;—partly applicable to air apparatus [ <i>pistons of air or blowing engines</i> ].	11,808	20th July 1847	Louis Dominique Girard.
Blowing-machines - - - - -	12,087	8th March 1848	George Lloyd.
Obtaining light and heat [ <i>blow-pipe</i> ] - - -	13,783	22nd Oct. 1851	{ William Bogget. George Holworthy Palmer.
Steam-engines; applicable wholly or in part to pumps and other motive-machines [ <i>blowing-machines</i> ].	13,921	26th Jan. 1852	Joseph Maudslay.
Construction of steam-engines [ <i>air pumps of steam-engines</i> ] - - - - -	14,259	12th Aug. 1852	{ Daniel Adamson. Leonard Cooper.
<b>II.—Exhausting, pumping, and withdrawing Air;—Air Pumps, Chambers, &amp;c.</b>			
Air-pump - - - - -	1385	22nd Aug. 1783	Jacob Bernard Haas.
Engine or machine constructed on a rotative principle, and for raising, pumping, or forcing air or other fluids - - - - -	1790	15th Jan. 1790	{ Joseph Bramah. Thomas Dickinson.
New method of performing and facilitating the business of divers manufacturing and economical processes [ <i>extracting and excluding air in the processes of preservation, percolation, exsiccation, distillation, &amp;c.</i> ]	2035	24th Jan. 1795	Samuel Bentham.
Constructing the air-pump and other parts belonging to steam-engines, so as to increase power and save fuel.	2531	11th Aug. 1801	Matthew Murray.
Air-pump - - - - -	2574	23rd Jan. 1802	Richard Willcox.
Engine for effecting a vacuum, thus producing a power by which water may be raised and machinery set in motion.	4874	4th Dec. 1823	Samuel Brown.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AIR AND WIND, &amp;c.—continued.</b>			
Improved air-chamber for various purposes [ <i>to render iron ships and other vessels buoyant</i> ].	5050	7th Dec. 1824	Robert Dickinson.
Apparatus for exhausting, condensing, or propelling air, smoke, gas, or other æriform products.	5146	2nd April 1825	Simon Broadmeadow.
Blowing-machine [ <i>may also be used as an exhausting machine</i> ].	5182	7th June 1825	Charles Powell.
Piece of machinery to combine with parts of air-pumps and condensers.	5755	14th Jan. 1829	Thomas Smith.
Exhausting air; applicable to various purposes -	6275	9th June 1832	Jacob Perkins.
Pumps for liquids or æriform fluids - - -	7844	3rd Nov. 1838	Jacob Filton Slade.
Apparatus for withdrawing air or vapours - -	8370	5th Feb. 1840	Samuel Carson.
Construction and application of air-vessels - -	8807	21st Jan. 1841	John Bradford Furnival.
Expelling air from cases or vessels used for preservation of various articles of food.	8812	6th April 1842	John Bevan.
Stationary engines and apparatus to be connected therewith, for exhausting air.	9702	20th April 1843	John George Bodmer.
Apparatus for regulating the escape of steam and the passage of air in chimneys of furnaces.	9817	6th July 1843	Florimond Delcroix, junior.
Apparatus for withdrawing air, gases, and other vapours.	10,727	23rd June 1845	Moses Poole.
Exhausting air from tubes or vessels for the purpose of working atmospheric railways, and for other purposes.	10,736	25th June 1845	William Sykes Ward.
Machinery for ventilation and other purposes [ <i>withdrawing gases from furnace</i> ].	10,827	4th Sept. 1845	Alexander Haig.
Improvements applicable to exhausting air and other fluids.	10,981	5th Dec. 1845	Henry Bessemer.
Withdrawing air and vapours from furnaces or other apparatus; condensing and employing such vapours.	11,027	6th Jan. 1846	Henry Watson.
Apparatus for propelling, exhausting, and compressing air and æriform bodies.	11,303	23rd July 1846	Peter Claussen.
Hydraulic and pneumatic machines; application of steam or other power thereto [ <i>machinery for forcing or exhausting air</i> ].	11,609	22nd April 1847	John Walker.
Mode of producing a vacuum;—may also be applied to pneumatic, hydraulic, and hydrostatic apparatus, and to machinery for obtaining motive power.	11,999	18th Dec. 1847	William Westbrooke Squires.
Engines for exhausting fluids - - - -	12,010	4th Jan. 1848	Edward Humphrys.
Application, removal, and compression, of atmospheric air.	12,313	2nd Nov. 1848	Thomas John Knowlys.
Mode and apparatus for employing air in a warm and cold state for manufacturing purposes [ <i>gas-exhausting apparatus</i> ].	12,491	28th Feb. 1849	Henry Crosley.
Apparatus for exhausting and driving atmospheric air and other gases, and giving motion to machinery.	12,760	6th Sept. 1849	Alexander Haig.
Machinery applicable for exhausting and forcing fluids.	13,560	20th March 1851	Henry Bessemer.
Machinery for pumping, forcing, and exhausting steam, fluids, and gases; adaptation thereof to the saturation, separation, and decomposition of substances [ <i>centrifugal air-pumps</i> ].	13,577	31st March 1851	John Gwynne.
Machinery applicable for the transmission of fluids [ <i>blowing, exhausting, or impelling air, fluids, or æriform bodies</i> ] - - - -	13,784	22nd Oct. 1851	{ John Platt. Christian Schiele.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AIR AND WIND, &amp;c.—continued.</b>			
<b>III.—Air and Gas Engines;—moving Machinery by Air.</b>			
Engine to be moved by the pressure of air into any building where the air is so rarified that the pressure from without is sufficient to turn wheels for grinding corn, raising water, and performing other operations.	505	12th Nov. 1728	John Payne.
Expanding fluids and rarifying them into an elastic impelling force sufficient for the turning of engines for raising water, and for other uses.	555	15th Nov. 1736	John Payne.
Reaction machine, set in motion by air or other fluid; applicable to other machines requiring a moving power.	1426	10th April 1784	Wolfgang de Kempelen.
"Eölian engines" for working pumps, mills, gins, whims, cranes, and other machines, by the power of wind and condensed air, for the purposes of draining and working mines, quarries, and other works, and for raising or forcing water to any height; also for working corn mills, saw mills, and other mills, and for other purposes.	1460	15th Jan. 1785	Christopher Gullett.
Method of applying the power of air, water, or steam, either separately or together, for the purposes of milling and of giving motion to machines, and for advantageous management of shipping and vessels of all kinds used in or upon water, in various circumstances and situations.	1738	24th March 1790	James Rumsey.
Machine to be worked by means of air and water, or by fire, air, and water, to perform work usually done by mills and engines or by other mechanical powers.	1929	22nd Dec. 1792	Thomas Parker.
Working and giving power to machinery by means of air.	2164	7th Feb. 1797	James Glazebrook.
Condensing wind-engine, capable of being applied to all purposes in which either steam, wind, water, or horses are used.	2299	28th Feb. 1799	George Medhurst.
Working and giving powers to machinery by means of the properties of airs.	2504	21st May 1801	James Glazebrook.
Giving power to machinery by the application of air.	2534	20th Aug. 1801	Lionel Lukin.
Method of working mills, pumps, and other machinery, by the impulse of wind.	2974	7th Oct. 1806	William Sampson.
Construction and working of atmospheric engines -	3243	15th June 1809	John Philip Fesenmeyer.
Rendering air more serviceable for various purposes; especially for working the steam-engine.	3280	28th Nov. 1809	William Cornelius English.
Wheel or wheels to be moved by steam, gas, or any other suitable fluids, and applicable to mechanic or other purposes where a moving force is required.	3335	9th May 1810	William Chapman.
Applying the expansive force of air upon a wheel so as to be the first mover of machinery.	3484	9th Sept. 1811	John Jones.
Machine which acts by the expansion or contraction of air heated by fire; applicable to the raising of water, or for giving motion to mills or other machines - - - - -	3995	14th March 1816	{ Pierre François Montgolfier, Louis Henry Daniel Dayme.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AIR AND WIND, &amp;c.—continued.</b>			
Constructing and working engines or machines for lifting or raising weights, turning machinery of all descriptions, drawing carriages on railways, and capable of being applied to all purposes where mechanical power is required ("Hydro-pneumatic engine").	4021	4th May 1816	John Rangeley.
Construction of an engine, wrought by steam or other elastic fluid, for driving mills and for other purposes [ <i>or wrought by compressed air</i> ].	4413	23rd Nov. 1819	George Lilley.
Machine or apparatus which may be worked by gas as a moving power.	4518	9th Dec. 1820	John Moore, junior.
Air-engines [ <i>to be worked by the force of heated air as a motive power</i> ].	5128	15th March 1825	William Grisenthwaite.
Engines moved by the pressure, elasticity, or expansion of gas or air.	5375	6th June 1826	Robert Meikelam.
Engine for communicating power to answer the purposes of a steam-engine [ <i>by expansive force of heated air</i> ].	5398	1st Aug. 1826	Adolpho Eugène Count de Rosen.
Preparing explosive mixtures and employing them as a moving-power for machinery [ <i>inflammable gases</i> ].	5402	12th Aug. 1826	Erskine Hazard.
Air-engines for the moving of machinery [ <i>to be worked by hot and cold air</i> ] - - - - -	5456	1st Feb. 1827	{ Robert Stirling. James Stirling.
Constructing and working an engine for producing power and motion [ <i>by the expansion and contraction of air</i> ] - - - - -	5530	1st Aug. 1827	{ William Parkinson. Samuel Crosley.
Working cranes or tilt hammers [ <i>by an atmospheric engine</i> ].	5548	30th Aug. 1827	John Hague.
Propelling boats and other vessels [ <i>by condensed air or gas</i> ].	5644	29th April 1828	Charles Carpenter Bompas.
Construction and mode of working engines with air.	5714	9th Oct. 1828	Thomas Tippet.
Application of elastic and dense fluids to the propelling of machinery of various descriptions [ <i>engine worked by gas or other elastic vapour</i> ].	5736	15th Dec. 1828	Richard Williams.
Engine or machinery to be worked by gases or air on shore or at sea ("Pickering's Engine") - - -	5784	28th April 1829	{ Peter Pickering. William Pickering.
Communicating power and motion to fixed machinery by the application of compressed air.	5797	1st June 1829	William Mann.
Apparatus for raising or generating currents of air; application thereof to locomotive engines, and to other purposes.	5815	8th July 1829	Moses Poole.
Engine for communicating power for mechanical purposes [ <i>worked by elastic gas</i> ].	5961	24th July 1830	John Ericsson.
Piston and valve for gas and other engines - - -	6204	22nd Dec. 1831	Samuel Hall.
Application of known principles to produce mechanical power [ <i>gas-engine</i> ].	6890	24th Aug. 1835	Theodore Schwartz.
Rotary engines to be worked by aeriform fluids - -	7597	19th March 1838	Ducheman Victor.
Engines to be worked by air or other fluids - - -	7721	6th July 1838	Henry Elkington.
Machinery to be worked by the application of the expansive force of air or other elastic fluid to obtain motive-power [ <i>air-engine</i> ].	7859	8th Nov. 1838	Bryan J'Anson Bromwich.
Engines worked by air or other gases - - - - -	7941	17th Jan. 1839	William Newton.
Machinery to be worked by the application of the expansive force of air or other elastic fluids to obtain motive-power [ <i>air-engine</i> ].	8110	17th June 1839	Bryan J'Anson Bromwich.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AIR AND WIND, &amp;c.—continued.</b>			
Methods of producing or manufacturing certain inflammable substances, and of applying the heat and light derived from certain inflammable substances to various useful purposes [ <i>employing the heat of liquid tar for working an engine by the expansion of air</i> ].	8141	3rd July 1839	Alexander Cruickshanks.
Rotary engines worked by heated air and gases;—applying the same to useful purposes.	8591	5th Aug. 1840	Colin Macrae.
Air-engines - - - - -	8652	1st Oct. 1840	{ James Stirling. Robert Stirling.
Engines worked by air or other gases - -	8661	15th Oct. 1840	William Newton.
Engines to be worked by gas or vapours - -	9027	13th July 1841	Benjamin Beal.
Engines to be worked by gas - - - - -	9118	14th Oct. 1841	William Newton.
Engines to be worked by air, gas, or vapours;—applicable to pumps for raising or forcing air or other fluids.	9321	15th April 1842	John Lamb.
Obtaining power by means of gases, applicable to working machinery.	9840	13th July 1843	James Neville.
Engines to be worked by air or other gases - -	9937	9th Nov. 1843	Samuel Heseltine.
Engines to be worked by air or gases - - -	10,427	12th Dec. 1844	Charles Louis Felix Franchot.
Combined expansive atmospheric and steam engine	10,766	12th July 1845	{ Samuel Trethewan. Joseph Quick.
Atmospheric engines - - - - -	10,920	4th Nov. 1845	Richard Atha.
Gas-engines - - - - -	11,072	3rd Feb. 1846	Samuel Brown.
Engines to be worked by gas - - - - -	11,615	10th March 1847	William Newton.
Engines to be worked by gas - - - - -	11,625	16th March 1847	William Newton.
Atmospheric engines - - - - -	11,713	22nd May 1847	John Aitken.
Universal wheels or direct rotary engines, to be worked by air or other elastic power.	11,800	17th July 1847	Anthony Bernhard Von Rathen.
Construction of rotary engines to be worked by air or other elastic fluid.	11,956	11th Nov. 1847	Israel Kinsman.
Obtaining motive-power by the aid of atmospheric air [ <i>constructing engines to be worked by heated compressed atmospheric air</i> ].	12,085	8th March 1848	John Houston.
Engine which may be worked by air and other fluids - - - - -	12,182	10th June 1848	{ Richard Want. George Venum.
Construction of rotary engines to be worked by air or other elastic fluid.	12,394	28th Dec. 1848	Israel Kinsman.
Engines to be worked by air or gas - - -	12,399	4th Jan. 1849	William Crofton Moat.
Mode and apparatus for employing air in a warm and cold state for manufacturing purposes [ <i>air-wheel</i> ].	12,491	28th Feb. 1849	Henry Crosley.
Engines worked by air and other fluids, and whether locomotive, marine, or stationary;—applicable to blowing air - - - - -	12,680	10th Dec. 1849	{ Jonah Davies. George Davies.
Oscillating engines put in motion by gas and steam resulting from combustion.	13,111	8th June 1850	Peter Armand le Comte de Fontainemoreau.
Working engines by atmospheric air - - -	13,120	11th June 1850	John Henry Vries.
Certain parts of engines worked by air or gases -	13,625	8th May 1851	William Edward Newton.
Engines to be worked by air or gases - - -	14,086	24th April 1852	Samuel Heseltine, junior.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AIR AND WIND, &amp;c.—continued.</b>			
<b>IV.—Windmills; also making and working Sails for the sails.</b>			
1. ( <i>Windmills.</i> )			
Windmill for raising water - - - -	174	27th Feb. 1674	John Johnson.
New invention of a wind-engine, for occasioning motion to all sorts of mill work, and for other purposes, with fans moving horizontally, and so disposed as to work with the wind blowing from any point of the compass, without turning or altering the position of the said engine, or house thereto belonging.	471	26th Oct. 1724	John Brent.
Machine or upright windmill, moved chiefly by the wind, for raising water;—applicable to other purposes where force is required.	561	24th June 1738	John Kay.
Self-regulating wind machine - - - -	615	9th Dec. 1745	Edmund Lee.
Machine, to be turned only by the wind, for drawing water, metal, ores, or other weights from pits, quarries, or other great depths.	643	9th May 1749	Richard Langworthy.
Horizontal windmill, with a multiplying power, which may be likewise worked by cattle, and the wind power applied to a watermill.	1124	1st April 1776	Peter M'Intosh.
Raising and lowering the millstones in the mill, so as to cause them to grind with greater advantage than heretofore; regulating nut or wheel for turning the stones.	1484	11th June 1785	Robert Hilton.
Construction of windmills - - - -	1890	14th June 1792	George Silvester.
Applying the power of wind to horizontal mills -	2200	31st Oct. 1797	Robert Beatson.
Horizontal windmills - - - -	3259	4th Sept. 1809	Samuel Long.
Applying the power of wind and cattle to machinery, so as to effect improvements on mills.	3264	26th Sept. 1809	William Watts.
Machinery to be worked by wind - - - -	3840	15th Jan. 1813	William Allen.
Construction of horizontal windmills;—applicable to machinery worked by wind.	3689	5th May 1813	Thomas Walker.
Construction of wheels designed for driving machinery to be impelled by wind.	5455	1st Feb. 1827	John Oldham.
Windmills;—applicable to other purposes - -	6649	26th July 1834	William Hale.
Improvements applicable to windmills - -	7338	3rd Dec. 1836	David Nimes Carvalho.
Driving mills and other machinery by the power of the wind.	10,010	3rd Nov. 1845	Richard Biddle.
Machinery for obtaining and applying, accelerating } and retarding motive-power [ <i>constructing wind-</i> <i>mills with fantail sails on a circle</i> ] - - - }	11,442	5th Nov. 1846	{ Frederick Herbert Maberly. Thomas Branwhite. Dennis Lusher.
Improvements partly applicable to rotatory engines worked by wind.	12,038	13th Jan. 1848	Robert Wilson.
Windmills - - - -	13,981	23rd Feb. 1852	Richard Archibald Broo- man,
2. ( <i>Sails for Windmills.</i> )			
Making sails to go the horizontal way for mills and engines used in draining pits, and for other uses.	243	12th Nov. 1684	Nathan Heckford.
Sails for windmills, with horizontal levers, to move with the wind in any quarter.	1399	15th Nov. 1783	Benjamin Wiseman.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>AIR AND WIND, &amp;c.—continued.</b>			
Sails for windmills, with their power and motion regulated by gravitation.	2438	13th Aug. 1800	Robert Sutton.
Vanes or sails for windmills - - - -	2577	20th Jan. 1802	Thomas Charles Baker.
Vertical windmill sails - - - -	3034	22nd June 1815	Robert Raines Baines.
Form and construction of windmills and their sails -	5758	14th Jan. 1829	Thomas Chuk Hewes.
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3. ( <i>Working and furling Windmill Sails.</i> )			
Furling and unfurling the cloth upon the sails of windmills.	1484	11th June 1785	Robert Hilton.
Regulator for furling and unfurling the sails of windmills when at work, for grinding corn, flour, and meal.	1628	15th Nov. 1787	Thomas Mead.
Clothing and unclothing the sails of windmills while in motion.	2782	14th Sept. 1804	John Bywater.
Equalizing the motion of windmill sails - - -	3041	9th May 1807	William Cubitt.
Machinery for obtaining and applying, also for accelerating and retarding, motive-power, and for giving notice of alarm in expectation of or in actual danger [ <i>windmill sails, and working the same</i> ]	11,442	5th Nov. 1846	{ Frederick Herbert Ma- berly. Thomas Branwhite. Dennis Lusher.
[See also "VENTILATING."]			
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<b>ALARMS, SNARES, AND VERMIN TRAPS.</b>			
<b>I.—Alarms and Snares.</b>			
Night engine, which, being placed in a convenient situation in any house, will give timely notice to the inhabitants in case of an attempt to break in, and thereby prevent robberies and murders.	331	12th Feb. 1694	John Tyzacke.
Fire-alarm - - - - -	798	29th July 1763	John Green.
Machine for giving alarm in houses, in case of fire or burglary.	1004	6th Feb. 1772	Solomon Henry.
Alarm, whereby sedan-chairs, coaches, chariots, postchaises, and other carriages, may be immediately stopped, and their attendants summoned in cases of imminent danger.	1082	12th Sept. 1774	Lemuel Dole Cynelme.
Alarm-gun, for preventing houses and other places from being broken into.	1376	6th June 1783	Moses Samuel.
Alarm-clatterer, to prevent housebreaking; mode of fixing the same.	1497	19th Oct. 1785	Colin Mackenzie.
Instrument to give alarm in case of accidental or other fire.	1523	23rd Jan. 1786	Peter Sidebotham.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ALARMS, SNARES, &amp;c.—continued.</b>			
Machine to prevent fire and housebreaking;—applicable to other purposes.	1550	4th July 1786	Edward Strickland.
Philosophical fire-alarms, to be applied to houses and other buildings.	1804	19th May 1787	William Stedman.
Fixing and setting an alarum or alarm-bell, for purposes of alarm and for awaking families in case of fire.	2842	19th Aug. 1802	Joseph Smith.
Marine alarum	2893	19th Nov. 1805	John Palmer de la Fons.
Preventing fires, and preserving persons and property therefrom, by improved alarms, chimneys, cisterns, fire-screens, and other articles.	2963	30th Aug. 1806	John Carey.
Bell and gun alarm	3386	1st Oct. 1810	Benjamin Milne.
Alarm and machinery for discovering depredators in a house or premises.	3714	1st July 1813	John Ambrose Tickell.
Apparatus for the detection of depredators ("Thieves' Alarum")	3869	24th Dec. 1814	{ Edward Jorden. William Cooke.
Machine and apparatus calculated to answer the purposes of a fire and burglary alarm	4412	23rd Nov. 1819	{ Joseph Glenny. John Darby.
Portable alarum to be attached to and detached from clocks and watches [consisting of a small train of wheelwork, with a bell for the purpose of giving notice of the hour for which it is set].	4753	11th Feb. 1823	William Gossage.
Securing property in coaches, travelling carriages, waggons, caravans, and all similar public and private vehicles, from robbery [by attaching an alarm-bell].	4855	1st Nov. 1823	John Ranking.
Apparatus for catching and detaining depredators and trespassers [humane snare].	5778	28th March 1829	William Madeley.
Alarm-gun or reporter and detector	7232	22nd Nov. 1836	Isaac Naylor.
Alarums	8508	12th May 1840	Richard Foote.
Apparatus for sounding alarms at distant places by means of electric currents.	9465	8th Sept. 1842	William Fothergill Cooke.
Sound-alarms	9674	21st March 1843	{ Joseph Needham Tayler. William Henry Smith.
Apparatus for giving action to alarums	9839	13th July 1843	Henry Smith.
Giving alarm in case of fire	10,804	6th Aug. 1845	Francis Taylor.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [combining a door-plate, two knobs, knocker, and alarm-bell].	11,149	25th March 1846	Charles Smith.
Apparatus for protecting property, by sounding alarums or giving signals [for protecting grain, fruit, and vegetables from the depredation of birds and small animals].	11,256	22nd June 1846	John Gillett.
Machinery for giving notice of alarm in expectation of or in actual danger	11,442	5th Nov. 1846	{ Frederick Herbert Ma- berly. Thomas Branwhite. Dennis Lusher.
Safety-hinge and apparatus for the detection of burglars and prevention of burglaries	13,575	24th March 1851	{ Henry Stephen Ridley. James Edser.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ALARMS, SNARES, &amp;c.—continued.</b>			
<b>II.—Vermin Traps.—Destroying and chasing away Insects and Vermin.</b>			
Killing vermin - - - - -	2349	23rd Sept. 1799	John Crooks.
Composition for destroying rats or other vermin ("Cundell's Myoctonus").	2439	26th July 1800	Henry Cundell.
Machinery for chasing away flies and venomous insects.	2662	25th Nov. 1802	William Dobson.
Apparatus for catching rats and other vermin -	4268	26th May 1818	Henry Taylor.
Machine for catching flies and wasps - - -	4363	1st May 1819	John Pinchback.
Composition for destroying vermin - - -	12,811	12th Oct. 1849	George Alois Ringelsen.
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<b>ALKALIES.</b>			
<b>Making Soda, Potash, and Ammonia.</b>			
Making soap-ashes, pot-ashes, and salts for soap -	20	10th May 1622	{ Sir Edmond Harewell, Knt. Sir Carey Raleigh, Knt. John Williams. Robert Clerke.
Burning straw of beans and peas, also kelp, fern, and other vegetables, into ordinary ashes, or into pot-ashes for the purpose of making soap; use of the assay glass for trying the lee - - - }	23	23rd Feb. 1623	{ Roger Johns. Andrew Palmer.
Making barilla - - - - -	100	4th Jan. 1637	Henry Hughes.
Making pot-ashes from tobacco-stalks, broom-stalks, and other vegetables, and joining and mixing the volatile spirits with the fixed spirits in the same; mixing the materials for the purpose of making the salts used for melting down glass-metals firm and lasting.	146	20th July 1664	Samuel Hutchinson.
Use of certain vegetables of American growth for making pot-ashes.	417	15th Jan. 1718	Edward Semeins.
Making pearl-ashes - - - - -	647	1st July 1749	{ Daniel Jewers. William Lodge.
Making pearl-ashes - - - - -	663	18th April 1751	{ John Baker. John Barker.
Making kelp by burning seaweed as cut from the rocks, without further preparation.	570	13th March 1767	Thomas Delaval.
Making lees and ashes from marl and other materials, for bleaching cloth and yarn, and for the use of soapers, dyers, and others.	1036	19th March 1773	John Heys.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ALKALIES—continued.</b>			
Making and preparing pot-ashes and pearl-ashes from materials not before used for the purpose.	1223	10th May 1779	Richard Shannon.
British barilla, for manufacturing glass and glass bottles, soap and alum.	1246	4th March 1780	James King.
Separating mineral alkali from common salt - -	1281	26th Feb. 1781	James Turner.
Extracting volatile alkali from pit coal - - -	1291	30th April 1781	Archibald Earl of Dundonald.
Extracting or producing mineral alkali and fixed vegetable alkali.	1302	31st July 1781	Bryan Higgins.
Processes by which the alkalies contained in sea-salt, salt-water, rock-salt, salt-springs, and vitriolated tartar, are separated from the marine and vitriolic acids.	1303	1st Aug. 1781	Alexander Fordyce.
Making mineral and vegetable alkali - - -	1341	4th Nov. 1782	John Collison.
Obtaining the mineral and vegetable alkalies contained in rock-salt, brine-salt, salt refined from rock-salt, salt made from sea-water, glauber salts, and vitriolated tartar, by separating them from the marine and vitriolic acids.	1369	7th May 1783	James Gerard.
Making ashes and lees from straw, turf, lime, dung, dirt of the streets, and other waste.	1371	7th May 1783	John Heys.
Apparatus and processes for making fossil alkali -	1677	11th March 1789	Anthony Bourboulonde Boneuil.
Obtaining from wood-ashes a greatly superior quantity of pot-ashes and pearl-ashes than hitherto.	1813	2nd July 1791	George Glenny.
Applying heat from coke ovens to the distillation of volatile alkali, and to other purposes.	1832	18th Oct. 1791	William Stone.
Separating mineral alkali from muriatic acid as it exists in common salt, also from common salt as it exists in kelp.	1806	30th Aug. 1791	George Hodson.
Disengaging and obtaining mineral or fossil alkali or soda, and a vegetable alkali or potash, from neutral salts or solutions of the same; applying the products to various purposes.	2043	11th March 1795	Archibald Earl of Dundonald.
Making British potash - - - -	2129	20th July 1796	Robert Hoakesly.
Separating mineral alkali from muriatic acid as it exists in common salt, salt-rock, brine, sea-water, the neutral salt of natron, soza, sal-enixon, caput-mortuum, spirits of salts, kelp, and salts obtained from soapers' lees; also separating mineral alkali from common salt as it exists in kelp.	2168	23rd Feb. 1797	George Hodson.
Making British barilla and potash - - -	2508	2nd June 1801	Thomas Howard.
Preparing and making fossil or mineral alkali from various substances.	2586	27th Feb. 1802	George Hodson.
Mixture to be used in preparing sheep's-wool and lambs'-wool for various purposes - - - }	2703	17th May 1803	{ George Beaumont. Walter Beaumont.
Preparing barilla and kelp, and the neutral salts obtained therefrom.	2714	18th June 1803	Thomas Newstead.
Processes for separating the alkalies of potash and soda from their sulphates and sulphites.	2793	22nd Nov. 1804	William Henry Clayfield.
Making kelp, barilla, or other vegetable or mineral alkali, by fermentation and other means, in addition to combustion.	2842	17th June 1806	Samuel Phelps.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ALKALIES—continued.</b>			
Separating alkaline salts from the acid as it exists in kelp, black ashes, soapers' salts, spent lees, and other like articles [ <i>obtaining alkali</i> ].	3390	8th Oct. 1810	George Hodson.
Producing barilla - - - -	3507	21st Nov. 1811	Charles Random de Berenger.
Procuring or preparing sub-carbonate of soda [ <i>mineral alkali</i> ].	4357	3rd April 1819	Henry Peter Fuller.
Manufacturing mineral and vegetable alkali; and the application, so far as regards mineral alkali, as an improvement in the modes now in use, particularly in the manufacture of kelp.	4383	22nd June 1819	Charles Attwood.
Preparing certain substances so as to produce a substitute for barilla.	5829	11th Aug. 1829	John M'Leod.
Manufacturing or purifying soda - - -	6490	19th Oct. 1833	Charles Attwood.
Converting sulphate of soda into sub-carbonate of soda, or mineral alkali.	7061	12th April 1836	Thomas Hodgson Leighton.
Manufacture of soda - - - -	7274	11th Jan. 1837	John Joseph Charles Sheridan.
Processes for the manufacture of alkali from common salt; use of the products obtained therefrom.	7416	17th Aug. 1837	William Gossage.
Manufacture of soda - - - -	7426	31st Aug. 1837	John Joseph Charles Sheridan.
Manufacturing gas for the purpose of affording light [ <i>obtaining ammonia from the salts used in purifying gas</i> ].	7748	26th July 1838	Alexander Croll.
Manufacturing into soda part of the products arising from oxydizing lead, and converting the same into pigments of white and red lead.	7756	1st Aug. 1838	Edward Heard.
Manufacture of soda - - - -	7873	13th Nov. 1838	Edward Samuell.
Manufacture of liquid ammonia for various purposes	7877	20th Nov. 1838	William Watson.
Process of manufacturing alkali from common salt -	7879	22nd Nov. 1838	John Wilson.
Manufacture of alkalies - - - -	7998	8th March 1839	Edward Ford.
Manufacture of soda and other valuable products from common salt.	8056	7th May 1839	Joseph Hunt.
Manufacture of caustic soda - - - -	8304	9th Dec. 1839	Moses Poole.
Manufacture of potash and soda - - -	8356	21st Jan. 1840	William Hunt.
Producing soda and other articles obtained from the decomposition of common salt - - }	8386	12th Feb. 1840	{ Antoine Blanc. Théophile Gervais Bazille.
Manufacture of crystallized soda and soda-ash; recovery of the residue for various purposes - }	8465	6th April 1840	{ Harrison Blair. Henry Hough Watson.
Obtaining oils and other products from bituminous matters; purifying or rectifying the oils so obtained [ <i>obtaining ammoniacal water for the production of ammonia</i> ].	9060	4th Sept. 1841	Count Hompesch.
Production of ammonia - - - -	9145	9th Nov. 1841	William Edward Newton.
Manufacture of ammonia; apparatus for combining ammonia.	9156	11th Nov. 1841	James Young.
Improvements partly applicable to the manufacture of alkali.	9496	20th Oct. 1842	William Longmaid.
Manufacture of soda - - - -	9569	22nd Dec. 1842	William Godfrey Kneller.
Purification and application of ammonia to obtain certain chemical products.	9632	13th July 1843	Richard Laming.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ALKALIES—continued.</b>			
Manufacture of ammonia and its compounds -	10,181	28th March 1844	William Pollard.
Manufacture of potash and soda -	10,320	19th Sept. 1844	William Birkmyre.
Manufacture of soda - - - -	10,530	20th Feb. 1845	George Brown.
Manufacture of caustic alkalies, soda, and potash -	10,580	27th March 1845	Wilton George Turner.
Manufacture of soda-ash - - -	10,893	23rd Oct. 1845	Arthur Smith.
Manufacturing ammonia and its compounds; and the use in these manufactures of substances not hitherto so employed.	10,911	3rd Nov. 1845	Christopher Binks.
Processes in the manufacture of alkalies - -	10,916	3rd Nov. 1845	Thomas Bell.
Manufacturing soda - - - -	11,163	9th April 1846	Joseph Hunt.
Manufacture of soda and potash - -	11,293	29th June 1846	François Stanislas Meldon de Sussex.
Manufacture of alkali - - - -	11,484	14th Dec. 1846	William Longmaid.
Manufacture of certain alkalies - - -	11,555	1st Feb. 1847	Richard Albert Tilghman.
Manufacture of alkali; application of the products resulting therefrom.	11,624	16th March 1847	Charles Tennant Dunlop.
Manufacture of alkali - - - -	11,931	2nd Nov. 1847	William Longmaid.
Manufacture of soda; treating products obtained in such manufacture - - - -	12,038	25th Jan. 1848	{ James Barr Mitchell. Thomas Best Woolryche.
Manufacture of soda - - - -	12,045	27th Jan. 1848	William Watson Pat- tinson.
Improvements in part applicable to the manufacture of alkalies - - - -	12,505	5th March 1849	{ William Henry Balmain. Edward Andrew Parnell.
Improvements applicable in obtaining or in separating certain products or materials from gas-water, and other similar fluids [ammonia].	12,975	21st Feb. 1850	William Cormack.
Treating certain products resulting from the distillation of coal;—partly applicable to other similar purposes [obtaining ammonia from coal-gas].	13,050	23rd April 1850	{ Richard Laming. Frederick John Evans.
Obtaining ammonia - - - -	13,389	7th Dec. 1850	James Thomson Wilson.
Manufacture of alkali - - - -	13,465	21st Jan. 1851	George Elliot.
Manufacture of potash and soda - -	13,470	21st Jan. 1851	Samuel Clift.
Manufacture of soda - - - -	13,620	3rd May 1851	William Cooke.
Improvements partly applicable to the manufacture of alkali.	13,630	10th May 1851	William Longmaid.
Decomposing saline and other substances, and separating their component parts, or some of them, from each other [obtaining the metallic bases of alkalies by the action of electricity and heat].	13,755	25th Sept. 1851	Charles Watt.
Manufacture of saline and metallic compounds [making caustic soda].	13,950	3rd Feb. 1852	Peter Claussen.
Treatment of metallic ores and certain salts and residuary matters; obtaining products therefrom [manufacture of potash and soda].	13,987	23rd Feb. 1852	Samuel Boulton.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ALKALINE LEEES AND WASH WATERS.—</b> <b>COMPOSITIONS FOR BLEACHING AND WASHING.</b>			
<b>I.—Making and refining Lees.</b>			
Refining lees produced after the boiling or bucking of linens and cottons, and making the same again available for the same purpose; also for making soap, and for other purposes where vegetable ashes are used.	642	3rd April 1749	John Baker.
Making lees and ashes from marl and other materials for bleaching cloth and yarn, and for the use of soapers, dyers, and others.	1036	19th March 1773	John Heys.
Rectifying spent lees from which soap has been made, and rendering the same of a quality sufficient for making soap again.	1250	30th March 1780	John Mitchell.
Process for a mode of rendering soap-suds used in scouring, cleansing, or discharging, again available for the same purpose.	1257	14th June 1780	Samuel Unwin.
Making ashes and lees from straw, turf, lime, dung, dirt of the street, and other waste.	1371	7th May 1783	John Heys.
Refining, clarifying, or separating oil, gall, dirt, and other matters from lees of potash, pearlash, barilla-ash, or any other fossil, vegetable, or caustic alkali, after being used in bleaching.	1429	21st April 1784	Paul Highton.
Mixture used in preparing sheep's-wool and lambs'-wool for various purposes.	2703	17th May 1803	George Beaumont.
Treating waste matters resulting from the washing of wool and woollen fabrics.	7864	8th Nov. 1838	Felic Macartan.
Producing and preparing lees for soap-making	8435	17th March 1840	Moses Poole.
Separating and extracting grease, oil, and oleaginous matter, from water in which any such matter may be obtained, particularly the water used in cleansing wool, spun wool, and woollen cloth.	10,600	7th April 1845	John Henry Shearman.
Recovering products from water used for washing and treating wool, woollen and cotton fabrics, and other substances.	12,529	20th March 1849	Alexander M'Dougall.
<b>II.—Compositions for Bleaching and Washing.</b>			
Powder for cleansing woollen cloth and extracting stains and grease.	1134	11th Sept. 1776	Jonathan Andrews.
Composition for the manufacturing, improving, dressing, and bleaching of hemp, flax, and other vegetable substances; also cloth of hemp, and all other cloth and yarn.	1145	23rd Jan. 1777	Anthony Mikovini.
Composition, made in balls, for cleaning leather breeches, gloves, and other accoutrements.	1333	30th July 1782	Joseph Greenwood.
Vegetable substances, to bleach, or assist in bleaching, printed, painted, stained, or dyed cloths or other materials.	2089	17th Feb. 1796	John Grimshaw.
Vegetable liquid for bleaching and cleansing woollens, linens, cottons, and other articles.	2136	26th July 1797	Henry Johnson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ALKALINE LEES, &amp;c.—continued.</b>			
Method of preparing the oxygenated calcareous earths, strontites, barytes, and magnesia, in a dry, undissolved, or powdery form; applying such earth for the purpose of removing colours from vegetable or animal substances.	2312	30th April 1799	Charles Tennant.
Composition for shaving, without the use of razor, soap, or water.	2751	7th Feb. 1804	Marcus Hymans.
Composition for washing muslins, linens, and for other purposes.	2781	14th Sept. 1804	Barker Chifney.
Composition formed by uniting an absorbent or detergent earth with other ingredients, for washing, scouring, and for other purposes.	2798	19th Dec. 1804	William Everhard Baron Van Doornik.
Process to be used in the bleaching of linen or cotton yarn or cloth [and obtaining a bleaching liquor]	4822	24th July 1823	{ Miles Turner. Lawrence Angel.
Compositions to be used for washing in sea or other water [a solution of alkali mixed with porcelain earth].	5361	8th May 1826	Edward Heard.
Materials which, when combined, are suited for use in scouring, milling or fulling, cleansing and washing, cloths and other fabrics [alkaline liquor]	5774	10th March 1829	{ William Storey. Samuel Hirst.
A composition which will effect a considerable saving in oil and soap in the woollen manufactories.	6818	22nd April 1835	Sir John Byerley, Knt.
Manufacture of liquid ammonia, to make it applicable to scouring and other manufacturing purposes.	7877	20th Nov. 1838	William Watson.
Rendering useful chlorine, also the chlorides of lime and soda, and other compounds of chlorine, in bleaching.	7963	8th Feb. 1839	Christopher Binks.
Combining matters for washing and cleansing	10,089	4th March 1844	Peter Ward.
Recovery of manganese used in making bleaching-powder.	10,206	29th Aug. 1844	{ François Stanilas Meldon de Sussex. Alexander Robertson Arrott.
Certain substances applicable to the manufacture, scouring, and washing of wool, woollen fabrics, and other substances	11,742	12th June 1847	{ John Mercer. John Greenwood.
Materials for purifying or decolourizing bodies, which materials may also be employed as manure and pigments, and for other purposes.	11,790	12th July 1847	Robert William Sievier.
Materials employed in dressing, clearing, scouring, and bleaching textile fabrics and raw materials.	11,827	31st July 1847	Hector Sandeman.
Preparation and application of products from metallic ores, for bleaching.	13,342	14th Nov. 1850	John Swindells.
Bleaching and scouring woven and textile fabrics and yarns [mixture of resin, alkali and lime, to be used in boiling cloth or yarn].	14,179	24th June 1852	James Higgin.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ASSURANCE—PREVENTING FORGERY AND FRAUD.</b>			
Securing the property of persons purchasing shares of state-lottery tickets.	1159	14th July 1777	William Nicholson.
Securing to the purchasers of shares and of state-lottery tickets any prize drawn in their favour.	1170	29th Sept. 1777	John Molesworth.
Plan for assurances on lives of persons from ten to eighty years of age.	1197	21st July 1778	John Knox.
Plan for detecting and preventing all kinds of written forgeries.	2074	17th Nov. 1795	Charles Francis Badini.
Ascertaining the numbers, dates, and sums in bank-bills, notes, and other securities for money; preventing forgeries.	3330	2nd May 1810	Daniel Beaumont Payne.
Inlaying or combining different metals or other hard substances [ <i>compound plates for printing the backs of bank-notes in two colours, to prevent forgery</i> ].	4404	1st Nov. 1819	Sir John Congreve.
Preventing fraudulent practices on bankers' cheques, bills of exchange, and other commercial correspondence [ <i>by introducing lines printed in vegetable colours, and thus making all attempts at obliterating ink-marks by means of chemical action at once discoverable</i> ].	4731	10th Dec. 1822	William Robson.
Making blank forms for bankers' cheques, bills of exchange, promissory notes, post bills, and other instruments or securities, to prevent forgeries or alterations [ <i>marked with private countersigns</i> ].	5825	3rd Aug. 1829	Nathaniel Jocelyn.
Preparing writing paper to prevent the discharge of the ink without detection; also to prevent the falsification of writing thereon.	7316	6th March 1837	Charles François Edward Aulas.
Preparing writing paper to prevent the discharge of the ink without detection; also to prevent the falsification of writing thereon.	7462	7th Nov. 1837	Charles François Edward Aulas.
Manufacture of paper [ <i>by introducing fine threads or lines of silk into the fabric to prevent the forgery of postage envelopes</i> ].	8242	17th Oct. 1839	John Dickenson.
Treatment of paper or fabrics to prevent copies or impressions being taken of any writing or printing thereon.	13,717	14th Aug. 1851	Rudolph Appold.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>B.</b>			
<b>BATHS AND BATHING-MACHINES.</b>			
Baths, termed "circular baths;" engines and instruments necessary for making the same.	47	22nd June 1629	Thomas Grent.
Erecting certain baths to sweat, wash, and bathe in, } for preservation of health - - - }	200	25th March 1678	{ Sir William Jennens, Knt. Charles Systed.
Medicated baths, constructed on frames for floating on water.	824	7th Feb. 1765	John Wilkinson.
Making arbitrarily heated and medicated salubrious baths.	882	11th Sept. 1767	Bartholomew Dominicetti.
Bathing-machine, either fixed or moveable, which may be used as a hot or cold bath in salt or fresh water, fitted with a tap to the boiler, a stop to the door, and a scraper.	1989	13th May 1794	Robert Ferryman.
Making a vapour-bath or vessel of different sizes and shapes, by uniting thereto an air-pump or exhauster, for curing and relieving the gout and inflammatory disorders incident to the human body.	2271	20th Nov. 1798	Nathan Smith.
Working lavers or wash-basins of metal - - -	3534	4th Feb. 1812	Samuel Roberts.
Shower-baths [ <i>in which the patient may regulate the flow of water</i> ].	4680	13th June 1822	William Feetham.
Vapour-baths [ <i>portable, and supplied with steam from a boiler placed on the fire in the chamber</i> ].	4684	26th June 1822	Thomas Gauntlett.
Steam or vapour bath [ <i>fumigating bath</i> ] - - -	4725	9th Nov. 1822	John Jekyll.
Apparatus or machine, or a portable mineral or river water bath and linen-warmer, "Thermaphore;" also other apparatus or machines connected therewith, for filtering and heating water [ <i>for invalids, all the parts of the apparatus are arranged so as to be able to be conveyed in a cart or van</i> ].	5048	4th Dec. 1824	John Hillary Suwerkrop.
Bath [ <i>a portable bath, having a flue at the bottom, and to be heated by a spirit or gas lamp</i> ].	5131	22nd March 1825	Robert Hicks.
Baths; the improvements being applicable to other purposes [ <i>combining in one apparatus a shower, vapour, and slipper bath</i> ].	5868	6th Nov. 1829	William Gooch.
Shower and other baths - - - - -	6051	13th Dec. 1830	John Lee Benham.
Construction of vapour and hot-air baths - - -	6179	1st Aug. 1839	Pierre Jacques Ferrier.
Steam-baths and other baths - - - - -	9028	13th July 1841	Moses Poole.
Shower-bath - - - - -	9747	27th May 1843	Arthur Hill.
Apparatus for bathing - - - - -	9808	27th June 1843	Edward Johnson.
Baths - - - - -	10,206	30th May 1844	Robert Hazard.
Apparatus for bathing - - - - -	10,319	19th Sept. 1844	Christopher Vaux.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of portable baths</i> ] - }	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Applying gas to heat apparatus containing fluids } [ <i>constructing and heating baths</i> ] - - - }	12,504	5th March 1849	{ Nathan Defries. George Brooks Pettit.
Manufacture of baths and washtubs or washvessels -	12,868	28th Nov. 1849	{ Francis Tongue Rufford. Isaac Marson. John Finch.
Supplying water for baths and other uses - - -	14,091	27th April 1852	{ Alfred Tylor. Henry George Frasi.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BEARINGS, WHEELS, AXLES, AND DRIVING-HANDS.</b>			
<b>I.—Bearings and Journals.</b>			
Bearings of steam-engines . . . . .	6873	7th Aug. 1835	William Mason.
Bearings or journals of locomotive and other steam-engines; applicable to machinery in general.	8023	9th April 1839	James Nasmyth.
Constructing boxes for the bearings or journals of machinery in general.	9724	15th May 1843	William Edward Newton.
Construction, composition, and manufacture of bearings, steps, and other rubbing surfaces of steam-engines and other machinery.	10,594	7th April 1845	John Dewrance.
Improvements partly applicable to bearings of machinery . . . . .	11,318	30th July 1846	{ Robert Mallet. John Somers Dawson.
Bearings of machinery . . . . .	11,818	29th July 1847	William Baines.
Construction of the journals of wheels of railway and other carriages.	12,143	2nd May 1848	William John Normanville.
Construction of the bearings of railway engines, and railway and other carriages.	12,563	13th April 1849	Gaspard Brandt.
Forming bearings and other forms of metal . . . .	12,802	12th Oct. 1849	William Stedman Gillett.
Manufacture of the bearings of the axles of railways	12,876	3rd Dec. 1849	Baron James Ulric Vaucher de Strubing.
Manufacture of steps, bearings, axles and bushes, by application of materials not hitherto used [ <i>this part of the patent was disclaimed</i> ].	13,773	16th Oct. 1851	William Onions.
Construction of vehicles used on railroads and ordinary roads [ <i>employing friction roller bearings for axles</i> ].	14,036	24th March 1852	William Pidding.
Locomotive engines, partly applicable to other engines [ <i>construction of wheel bearings to assist friction</i> ].	14,176	24th June 1852	Jean Baptiste George Laudet.
<b>II.—Axles, Shafts, and Wheels.</b>			
Improvements applicable to mills and machinery where spindles and axletrees are used, and which do not work in the centre.	1514	9th Dec. 1785	John Shankster.
Metal box for the axletrees of mills, engines, and other machines.	2675	20th Jan. 1803	Joseph Jacob.
Wheels for various purposes . . . . .	3169	24th Sept. 1808	Thomas Paton.
Centres for wheels of machinery . . . . .	3713	29th June 1813	Charles Wilkes.
Teeth or cogs of wheels, pinions, and other mechanical agents for communicating or restraining motion.	4477	20th June 1820	Joseph Woollams.
Wheels for machinery;—applicable to other purposes	6158	5th Sept. 1831	George Forrester.
Revolving axle . . . . .	6812	14th April 1835	John Ingledew.
Rolling, making, or manufacturing shafts and various other heavy articles of metal; machinery or apparatus used in the same.	7886	2nd June 1838	James Hardy.
Increasing the security, tenacity, and strength of beams, axles, rods, and other articles made of iron and steel.	7944	19th Jan. 1839	Richard Dugdale.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BEARINGS, WHEELS, &amp;c.—continued.</b>			
Construction and manufacture of wheels, and in machinery connected therewith.	10,073	24th Feb. 1844	Peter Rothwell Jackson.
Machinery for connecting axles or shafts, so as to revolve at different velocities.	10,223	12th June 1844	Elijah Galloway.
Machinery for boring metals and other substances [ <i>wheel-cutting</i> ].	10,369	29th Oct. 1844	Thomas Fuller.
Marine and stationary steam-engines and apparatus connected therewith [ <i>axles</i> ].	11,199	7th May 1846	Thomas Melling.
Wheels for mill gearing - - - - -	11,314	27th July 1846	Robert Heath.
Arrangement of wheels and axles of steam-engines and other machinery; in part applicable to other machinery.	12,017	7th Jan. 1848	George Bell.
Improvements applicable to shafts or axles driven by steam or other power - - - - -	12,384	21st Dec. 1848	{ William Baker. John Ramsbottom.
Making cylindrical and conical shafts - - - - -	12,555	2nd April 1849	James Hardy.
Manufacture of wheels - - - - -	12,839	10th Nov. 1849	Enoch Chambers.
Construction of wrought-iron wheels;—machinery for effecting the same.	12,883	10th Dec. 1849	John Houghton Christie.
Forming and moulding plastic substances, and apparatus employed therein [ <i>manufacturing bevels, wheels and pinions of gutta-percha</i> ].	13,146	20th June 1850	John Hunt.
Manufacture of crank axles - - - - -	13,400	12th Dec. 1850	George Benjamin Thorneycroft.
Wheels and axles - - - - -	13,598	24th April 1851	William Andrews.
Steam-engines [ <i>making hollow axles of tubular metal</i> ].	14,182	24th June 1852	James Edward M'Connell.
<b>III.—Driving-bands.</b>			
Gear for obtaining a continuous rotary action -	7023	8th March 1836	Charles Schafhautil.
Manufacturing belts, bands, and straps, to be employed in the place of ropes or chains, and for other purposes - - - - -	7044	26th March 1836	{ John Lionel Hood. Andrew Smith.
Making bands and tackling for driving, turning, or carrying machinery.	7750	26th July 1838	Wilton Wood.
Rigger and pulley bands for driving machinery -	7816	20th Sept. 1838	Robert William Sievier.
Connecting or uniting straps or bands for driving machinery and other similar purposes; apparatus for effecting the same - - - - -	8069	20th May 1839	{ John Williamson Whitaker. Rowland Hall Heaton.
Manufacture of woollen belts, bands, or driving-straps.	8672	2nd Nov. 1840	James Heywood Whitehead.
Fastenings for bands and straps - - - - -	8918	5th April 1841	Henry M'Evoy.
Strap or band for driving machinery, and for other purposes.	9149	9th Nov. 1841	John Edwards.
Bands, straps, and cords for driving machinery, and for other mechanical purposes.	9587	3rd Dec. 1842	William Hancock.
Manufacture of driving-bands for machinery and other uses - - - - -	10,407	25th Nov. 1844	{ William Alsop. Thomas Forster.
Covering millstraps - - - - -	10,866	9th Oct. 1845	{ Joseph Edward Judson. Edward Banton.
Straps and bands - - - - -	11,087	11th Feb. 1846	William Wharton.
Making belts for driving machinery, of leather, felt, or parchment, and machinery for the purpose.	11,358	29th Aug. 1846	William Air Foster.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BEARINGS, WHEELS, &amp;c.—continued.</b>			
Manufacture of driving-bands;—partly applicable to the manufacture of other fabrics.	11,436	3rd Nov. 1846	Alfred Vincent Newton.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of straps or driving-bands</i> ]	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Gearing machinery - - - - -	11,614	10th March 1847	Edward Johnson Coale Atterbury.
Manufacture of driving-bands - - -	12,588	26th April 1849	William Faulconbridge.
Manufacture of bands for driving-machinery -	12,838	2nd Nov. 1849	Michael John Haines.
Piecing straps and belts for driving-machinery; machine for effecting the same - - -	13,690	17th July 1851	{ Thomas Wilkes Lord. George Wilson,
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<b>BELL-HANGING.</b>			
Axis or spindle to be fixed in cranks and pulleys used in bell-hanging and other mechanical operations.	1144	9th Jan. 1777	Colin Mackenzie.
Hanging and fixing bells, bolts, and door-latches with wheels and chains instead of cranks.	1686	15th Jan. 1788	James Angell.
Hanging bells - - - - -	2712	14th June 1803	James Thomson.
Construction of cranks for bells, and for other purposes [ <i>modes of attaching them to prevent damaging the walls</i> ].	4937	14th April 1824	Henry Potter Burt.
Bell machinery - - - - -	11,551	28th Jan. 1847	William Phillips Parker.
Manufacture of bells [ <i>this part of the patent was disclaimed</i> ].	13,773	16th Oct. 1831	William Onions.
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Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BLACKING—</b>			
<b>Making or preparing.</b>			
Preparing composition or blacking in cakes, rolls, or balls, or other solid form.	981	17th Jan. 1771	William Bayley.
Making blacking to resist moisture, and preserve leather from salt water.	1421	10th March 1784	Michael Nash.
Preparing blacking - - - - -	3716	7th July 1813	Robert Adams.
Manufacture of liquid and paste blacking by introducing india-rubber, oil, and other articles and things - - - - -	7246	3rd Dec. 1836	{ William Bryant. Edward James.
Composition of blacking - - - - -	9667	16th March 1843	Martyn John Roberts.
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<b>BLEACHING, WASHING, AND SCOURING.</b>			
<b>I.—Bleaching and Washing Apparatus.</b>			
Using and working rubbing boards, used in bleaching and other engines, by means of a cylinder with its appurtenances.	1851	23rd May 1788	William Fulton.
Mill or machine for washing and cleansing articles hitherto washed by hand.	1858	2nd March 1792	Robert Webster.
Engine for washing and cleansing every article hitherto washed by hand or otherwise.	1862	21st May 1792	John Harrison.
Bleaching by means and use of mineral and vegetable alkalies.	2204	12th Dec. 1797	John Crooks.
Method of using lime, strontites, and barytes, either in their carbonated or calcined state, instead of alkaline substances, for neutralizing the oxygenated muriatic acid used in bleaching; also, using the above earths in other parts of the process of bleaching.	2209	23rd Jan. 1798	Charles Tennant.
Method of preparing the oxygenated calcareous earths, strontites, barytes, and magnesia, in a dry, undissolved, or powdery form; applying such earths either in the above state or dissolved, for the purpose of removing colours from vegetable or animal substances.	2312	30th April 1799	Charles Tennant.
Bleaching by volatile, mineral, and vegetable alkalies, either conjointly or alone.	2342	23rd Sept. 1799	John Crooks.
Retorts used by bleachers and makers of oxy-muriatic acid or oxymuriate of lime.	5739	15th Dec. 1828	John Morfitt.
Scouring and cleansing - - - - -	6022	5th Nov. 1835	John Whitehead.
Scouring and bleaching - - - - -	10,070	24th Feb. 1844	Alexander Alliot.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BLEACHING, WASHING, &amp;c.—continued.</b>			
Improvements in machines for scouring and bleaching, also for drying or extracting moisture from different substances.	10,494	25th Jan. 1845	Johann Gottlob Seyrig.
Machinery for scouring, washing, cleansing, and other similar purposes.	10,541	3rd March 1845	Samuel Knight.
Machine for washing and wringing - - - - -	10,624	17th April 1845	Samuel Wilkinson.
Treating fatty matters [ <i>bleaching and filtering</i> ] - - -	11,036	13th Jan. 1846	Jean Marie Durnerin.
Preparing "jute" for various purposes [ <i>bleaching</i> ] - -	11,126	11th March 1846	Frederick Crace Calvert.
Processes and machinery employed in scouring and bleaching.	11,724	29th May 1847	Richard Archibald Brooman.
<i>Brazing, pressing, separating, cleaning, and bleaching; cooling or heating matters; pistons, valves, taps, and spring apparatus</i> [the words printed in italics are disclaimed].	12,626	2nd June 1849	Moses Poole.
Bleaching certain organic substances, and manufacture of certain products therefrom.	12,716	24th July 1849	Joseph Woods.
Bleaching - - - - -	13,224	16th Aug. 1850	Peter Clausen.
Cleaning and drying machines - - - - -	13,490	3rd Feb. 1851	Alexander Alliott.
Bleaching, washing, scouring, and other processes connected therewith - - - - -	13,903	20th Jan. 1852	{ John Whitehead. Robert Diggle.
Apparatus used in bleaching - - - - -	14,235	20th July 1852	Richard Bealey.
Bleaching and apparatus connected therewith - - -	14,356	5th Feb. 1853	Pierre Isidor David.
<b>II.—Materials, Cloths, and Wearing-apparel.</b>			
Preparing and whitening hemp and flax by the help of liquors and engines, so that they may be made into lighter and stronger cordage, may be spun finer, and woven into cloth, without boiling or the use of stiffening.	201	26th March 1678	Charles Howard.
Engine applicable to washing clothes - - - - -	271	27th Aug. 1691	John Tyzacke.
Bleaching, whitening, and beautifying Leghorn hats.	681	10th April 1753	Keyser Mole.
Bleaching and whitening linen and yarn by a composition.	1033	2nd March 1773	Patrick Weldon.
Machine called a laundry, for washing and pressing linen and wearing-apparel.	1269	5th Dec. 1780	Roger Rogerson.
Machine for washing wearing-apparel, lace, linen, and every other thing which requires washing.	1331	4th July 1782	Henry Sidgier.
Machine for watering yarn or cloth - - - - -	1545	16th Nov. 1782	Thomas Harpur.
Machine for washing linens - - - - -	1605	19th May 1787	Thomas Todd.
Apparatus and processes used in whitening hemp, flax, cotton, wax, and other articles, also goods manufactured from the same.	1678	25th Feb. 1789	Anthony Bourboulonde Boneuil.
Machine for washing, scouring, or cleansing linen, cotton, and woollen cloths, or other woven or knit fabric.	1717	12th Dec. 1789	George Coates.
Machines for washing and wringing linen, woollen, wool, cotton, silk, velvet, or any other commodity requiring washing, cleansing, or scouring.	1744	21st April 1790	James Wood.
Engine for washing linen, woollen, or any other article.	1759	10th July 1790	Joseph Cresswell.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BLEACHING, WASHING, &amp;c.—continued.</b>			
Machine for washing articles of linen, wool, silk, or cotton that will bear washing;—applicable to other useful purposes.	1770	10th Aug. 1790	Edward Thunder.
Machine for washing, cleansing, and scouring linen, wool, cotton, silk, or any other commodity.	1772	18th Aug. 1790	Joseph Hancock.
Machine for washing, cleansing, and scouring linen, cotton, or woollen apparel and household furniture.	1788	8th Dec. 1790	William Kendall.
Machine for scouring, milling, and washing hosiery, linen, and woollen cloths, clothing, and other manufactures or raw materials.	1932	23rd Jan. 1793	Nathaniel Bentley.
Bucking tub or cistern, with a furnace affixed to and communicating with the same, for bucking cloth, yarn, or other things usually bleached by bucking.	2078	3rd Nov. 1795	William Floyd.
Bleaching linen cloth and other cloths - - -	2384	24th March 1800	John Glover.
Processes and apparatus applicable to the bleaching and purifying, washing, and cleansing of cotton, flax, hemp, and wool, and to the purifying goods made of cotton, flax, hemp, silk, and wool.	2449	15th Nov. 1800	John Turnbull.
Machines for washing and wringing linen, woollen, wool, cotton, silk, velvet, or any other commodity.	2525	10th July 1801	George Medhurst.
Machine for bleaching, washing, and cleansing linen or other articles that can be so operated on by hand.	3035	21st April 1807	William Shotwell.
Construction of a machine for washing or cleansing linen and other articles.	3133	17th May 1808	Chester Gould.
Machine for washing linen and cotton cloths and pressing the water from them.	3175	31st Oct. 1808	Zachariah Barratt.
Machine for washing and bleaching linen and other articles by means of steam.	3401	4th March 1811	Edward Savage.
Machine for washing clothes, and for other processes in family and other establishments.	3418	26th March 1811	Robert Bill.
Machine for washing, cleansing, and scouring linen, woollen goods, and other articles.	3641	15th Jan. 1813	Richard Cawkwell.
Steam boiler and apparatus for washing, steaming, cleansing, and whitening clothes and cloths.	3790	12th March 1814	John Slater.
Bleaching flax and hemp, also yarns and cloth or other goods made of either of these articles.	4193	22nd Dec. 1817	William Cleland.
Machinery and apparatus for bleaching flax, hemp, and other substances.	4545	27th March 1821	Ilario Pellafinet.
Machine for washing and cleaning clothes - - -	4620	27th Nov. 1821	William Baylis, junior.
Machine for washing linen, cotton, or woollen cloths, either as piece goods or when made in articles for use.	4625	10th Dec. 1821	William Warcup.
Machine for scouring, pising and washing woollen cloths.	4721	1st Nov. 1822	Alfred Flint.
Machine for washing, cleansing, and whitening cotton, linen, silk, and woollen garments or piece goods.	4752	20th Jan. 1823	Junius Smith.
Process to be used in the bleaching of linen or cotton yarn or cloth - - - - }	4822	24th July 1823	{ Miles Turner. Lawrence Angel.
Machinery for washing, cleansing, or bleaching linens, cottons, and other fabrics, goods, or fibrous substances [ <i>by steam</i> ].	5154	20th April 1825	Lemuel Wellman Wright.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BLEACHING, WASHING, &amp;c.—continued.</b>			
Bleaching linen or cotton yarns and goods; machinery adapted for bleaching the same.	5620	21st Feb. 1828	David Bentley.
Machinery for bleaching linen and cotton goods -	6669	23rd Aug. 1834	James Slater.
Expediting the bleaching of linen and other vegetable fibres.	7056	7th April 1836	Thomas Ridgway Bridson.
Machinery for bleaching or cleansing linens, cottons, or other fabrics, goods, or other fibrous substances.	7251	9th Dec. 1836	Lemuel Wellman Wright.
Scouring piece-goods and other fabrics; machinery } for the purpose - - - - - }	7292	28th Jan. 1837	{ James Hellewell. Aaron Fearn.
Machinery for bleaching or cleansing linens, cottons, or other fabrics, goods, or other fibrous substances.	7348	20th April 1837	Lemuel Wellman Wright.
Bleaching or cleansing linens, cotton and other fibrous substances; also discharging colours from the same in the raw or manufactured state.	7349	22nd April 1837	William Gratrix.
Machinery for washing, cleansing, or bleaching linens, cottons, and other fabrics, goods or fibrous substances.	8028	9th April 1839	Lemuel Wellman Wright.
Machine for washing and bleaching wool, cotton, silk, linen, and other fibrous materials, manufactured or unmanufactured.	8079	25th May 1839	Martial Augustin Joseph de Herrypon.
Machinery for boiling, bucking, or scouring, for preparing and assisting the process of bleaching and dyeing cotton, linen, and other fabrics, and fibrous substances.	8449	25th March 1840	Samuel Knight.
Washing and bleaching cotton yarns or fabrics -	9196	21st Dec. 1841	William Newton.
Obtaining the colouring matter from wool and woollens dyed with indigo.	9391	13th June 1842	Moses Poole.
Machinery for bleaching various fibrous substances -	9787	15th June 1843	Lemuel Wellman Wright.
Cleansing gentlemen's garments - - - - -	10,156	24th April 1844	Rene Allaire.
Bleaching yarns and fabrics - - - - -	10,769	12th July 1845	Richard Simpson.
Scouring and bleaching piece-goods or woven fabrics.	10,904	31st Oct. 1845	James Hardcastle.
Scouring, bleaching, and washing wool, cotton, silk, and other fibrous substances, raw or manufactured.	10,965	20th Nov. 1845	James Donaldson.
Machinery for washing and cleaning cotton, linen, } or woollen fabrics - - - - - }	11,132	11th March 1846	{ Charles Robert Robinson. William Bowden.
Scouring and clearing wool and woollen fabrics; also bleaching and clearing silk, cotton, linen, and other fabrics.	11,190	2nd May 1846	John Mercer.
Washing, cleansing, scouring, and bleaching silk, cotton, wool, and fibrous substances generally.	11,367	3rd Sept. 1846	George Senior.
Machinery for bleaching linen and other manufactures in which chloride of lime is employed.	11,417	15th Oct. 1846	John Donkin.
Washing, scouring, and drying wool, alpaca, mohair, cotton and other fibrous substances.	11,803	19th July 1847	James Whitley.
Materials and processes employed in dressing, clearing, scouring, and bleaching certain textile fabrics [and the materials of which such fabrics are composed].	11,827	31st July 1847	Hector Sandeman.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BLEACHING, WASHING, &amp;c.—continued.</b>			
Apparatus for bleaching, clearing, and steaming animal or vegetable fibrous substances, either in a raw or manufactured state.	12,461	8th Feb. 1849	Joseph Barnes.
Bleaching cotton - - - - -	12,469	28th Feb. 1849	Pierre Iador David.
Machinery for washing and cleansing cotton and other fabrics;—applicable to operations in bleaching warps and piece-goods - - - - -	12,565	16th April 1849	{ Thomas Cocksey. James Nightingale.
Cleansing, scouring, or bleaching silk, woollen, cotton, and other woven fabrics and yarns.	12,610	15th May 1849	John Thom.
Machinery for bleaching textile and other fabrics -	12,942	26th Jan. 1850	John Dalton.
Machinery for washing cotton, linen, and other fabrics - - - - -	13,055	23rd April 1850	{ William Macalpine. Thomas Macalpine.
Machinery or apparatus for scouring woollen, cotton, and other woven fabrics - - - - -	13,248	5th Sept. 1850	{ James Mather, junior. Thomas Edmeston.
Machinery for washing, steaming, drying, and finishing cotton, linen, and woollen fabrics -	13,310	2nd Nov. 1850	{ William Mather. Colin Mather. Ferdinand Kaselowsky.
Machinery for washing and drying linen and other fabrics.	13,372	30th Nov. 1850	Joseph Eugène Chabert.
Bleaching flax and hemp - - - - -	13,567	24th March 1851	{ Henri Six. Alexandre Six.
Manufacture of bleached, coloured, or parti-coloured threads or yarns [ <i>bleaching slivers</i> ].	13,569	24th March 1851	James Cheetham.
Cleansing piece-goods - - - - -	13,580	31st March 1851	Joseph Richardson.
Preparation of cotton for bleaching - - - - -	13,683	3rd July 1851	Charles Cowper.
Apparatus used in the bleaching of yarns and goods	13,964	12th Feb. 1852	{ John Smith Hulton. Joseph Musgrave.
Treatment of wool, hair, feathers, fur, and other fibrous substances; machinery or apparatus for the purpose [ <i>washing and purifying</i> ].	14,035	24th March 1852	William Henry Hulseberg.
Machinery for washing woven and other fabrics -	14,145	29th May 1852	Joseph Lees.
Bleaching and scouring woven and textile fabrics and yarns.	14,179	24th June 1852	James Higgin.
Apparatus used in bleaching [ <i>yarns</i> ] - - - - -	14,235	20th July 1852	Richard Bealey.
Washing and bleaching flax and hemp; mixing them with other textile substances.	14,314	7th Oct. 1852	Pierre Armand le Comte de Fontainemoreau.
<b>III.—Paper.</b>			
Decomposing or removing all colours in linens and cottons, and whitening all other kinds of linens and cottons in different stages of the paper manufacture - - - - -	1872	25th April 1792	{ Clement Taylor. George Taylor.
Bleaching paper - - - - -	2040	28th Feb. 1795	John Bigg.
Bleaching paper in the water leaf or sheet - - -	2075	19th Nov. 1795	Elias Carpenter.
Extracting printing and writing ink from printed and written paper.	2392	28th April 1800	Matthias Koops.
Machinery for bleaching paper and other manufactures in which chloride of lime is employed.	11,417	15th Oct. 1846	John Donkin.
<b>IV.—Tallow and Wax.</b>			
Making yellow wax white - - - - -	50	21st Jan. 1630	David Ramsey.
Apparatus and process used in whitening wax and other articles.	1678	25th March 1789	Anthony Bourbelonde Boneuil.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BLEACHING, WASHING, &amp;c.—continued.</b>			
Process for bleaching or whitening bees'-wax, myrtle-wax, and animal tallow [ <i>by means of oxymuriatic of lime or of magnesia in solution</i> ].	5396	1st Aug. 1826	William Davidson.
Bleaching certain animal fats, and certain animal, vegetable, and fish oils.	6646	17th July 1834	William Septimus Losh.
Treating cerous bodies; manufacture and application of such bodies, their compounds and subsidiary products, with the apparatus to be employed therein; their application to new and other purposes	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Refining and bleaching fatty matters and oils, animal and vegetable wax and resins.	13,636	19th May 1851	Hugh Barclay.
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<b>V.—Feathers.</b>			
Cleansing feathers for beds, also hair, wool, down, and other the natural covering of birds and animals, from their animal oil.	3796	4th Dec. 1804	Matthew Gregson.
Machinery for cleansing, seasoning, and dressing feathers and other articles.	2962	30th Aug. 1806	Thomas Pearson.
Apparatus for cleansing, purifying, and preparing feathers and down for domestic uses; process of effecting the same.	6973	31st Dec. 1835	Theodore Lyman Wright.
Process and apparatus for cleansing and dressing feathers.	8696	10th Nov. 1840	Thomas Lawes.
Treatment of feathers and other fibrous substances; machinery or apparatus for the same.	14,035	24th March 1852	William Henry Hulseberg.
[For "Bleaching Powders," &c., see "ALKALINE LYES."]			

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOILERS AND PANS.</b>			
<b>I.—Boilers for Steam-engines.</b>			
Boiler to a fire-engine - - - - -	895	5th March 1768	Joseph Hately.
Constructing and hanging the boilers of steam-engines.	949	5th Jan. 1770	Dugald Clarke.
Constructing boilers for fire-engines - - -	1056	17th Nov. 1773	Christopher Chrisel.
Boiler for use in working mechanical and other engines.	1478	9th May 1785	Joseph Bramah.
Machine or British boiler for mills or works where the power of steam is used.	1590	3rd Feb. 1787	John Reinecke.
Constructing boilers for steam-engines - - -	1673	6th Nov. 1788	James Rumsey.
Machines to be used in engines instead of a common boiler.	1808	24th May 1791	John Roger Teschemacher.
Steam-engine boiler - - - - -	2574	23rd Jan. 1802	Richard Willcox.
Mechanical powers applicable to steam-engines [boilers for steam-engines].	2576	28th Jan. 1802	James Sharples.
Steam-engine boilers - - - - -	2696	7th April 1803	John Leach.
Making boilers for steam-engines, and for other purposes.	2856	31st May 1805	Alexander Brodie.
Setting boilers for steam-engines - - - - -	3101	26th Jan. 1803	Thomas Preston.
Setting boilers of steam-engines - - - - -	4007	23rd March 1816	Abraham Rogers.
Boilers of steam-engines - - - - -	4231	27th Feb. 1818	Alexander Haliburton.
Junction of tunnels in a steam-boiler, also new flues in such boiler or the furnace connected with its erection, for the purpose of lessening the consumption of fuel, the appearance of smoke, and the trouble of attendance.	4310	12th Nov. 1818	James Fraser.
Construction of boilers for propelling - - -	4462	15th May 1820	John Barton.
Apparatus for shutting fire-doors and air-flues in steam-engine boilers, drying-pans, brewing-pans, and other fire-doors and air-flues, calculated to save fuel [boiler, with a self-regulating apparatus, which closes the furnace in a given time, after feeding].	4523	22nd Dec. 1820	William Pritchard.
Steam-engines [boiler and engine for working with high and low pressure steam at the same time].	4537	20th Feb. 1821	Robert Stein.
Steam-carriages capable of conveying goods and passengers on common roads without horses [boilers for locomotive carriages formed with horizontal water-tubes passing through the furnace].	4630	20th Dec. 1821	Julius Griffiths.
Boilers and condensers of steam-engines - -	4665	21st March 1822	Alexander Clark.
Steam-engines [boiler, and condenser so contrived as to return the water to the boiler].	4633	26th June 1822	Marc Isambard Brunel.
Steam-engine boilers - - - - -	4689	4th July 1822	Joseph Smith.
Construction of boilers for steam-engines - -	4712	18th Oct. 1822	{ Thomas Binns, Jonas Binns.
Steam-engines [and boilers or generators] - -	4732	10th Dec. 1822	Jacob Perkins.
Construction of boilers of steam-engines, and for other purposes where steam is required - - }	4611	8th July 1823	{ John Fisher, John Horton.
Boiler for steam-engines, and for other purposes -	4879	9th Dec. 1823	{ William Furnival, Alexander Smith.
Steam-engine or steam-engine apparatus [tubular boilers].	5032	6th Nov. 1824	John Moore.
Construction of boilers for steam-engines - -	5199	14th June 1825	William Henry James.
Steam-engines [constructing the boilers with tubes] -	5251	15th Sept. 1825	Jean Antoine Tessier.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOILERS AND PANS—continued.</b>			
Steam-engine [ <i>constructing a steam-generator, having tubes constantly full of water</i> ].	5297	24th Nov. 1825	Joseph Eve.
Steam-engine boilers or steam-generators;—applicable also to the evaporation of other fluids.	5381	4th July 1826	John Poole.
Constructing boilers for steam-engines - - -	5447	11th Jan. 1827	James Fraser.
Construction of steam-engines [ <i>and tubular boilers</i> ]	5477	22nd March 1827	Jacob Perkins.
Steam-engines [ <i>and tubular boilers</i> ] - - -	5514	4th July 1827	Walter Hancock.
Machinery for propelling vessels; applicable to other purposes [ <i>a cylindrical vessel or tubular boiler</i> ].	5580	11th Dec. 1827	Paul Steenstrup.
Apparatus or machinery for propelling locomotive carriages;—applicable to other purposes [ <i>boiler</i> ].	5592	21st Dec. 1827	William Harland.
Boilers applicable to machines for propelling vessels, and other purposes.	5857	15th Oct. 1829	William Church.
Steam-boilers, and apparatus connected therewith -	5862	2nd Nov. 1829	James Viney.
Construction of steam-engine and other boilers or generators, applicable to propelling vessels and locomotive carriages, and for other purposes - }	5927	14th April 1830	{ William Alltoft Summers. Nathaniel Ogle.
Boilers, and apparatus connected therewith, applicable to steam-engines, and to other purposes.	5958	19th July 1830	William Taylor.
Apparatus for propelling boats [ <i>tubular boiler</i> ] -	6041	29th Nov. 1830	William Church.
Apparatus for economizing steam, and for other purposes; application thereof to the boilers of steam-engines used on board packet-boats and other vessels.	6060	15th Jan. 1831	Samuel Seaward.
Machinery for propelling locomotive carriages [ <i>by a boiler constructed with horizontal tubular flues</i> ] - }	6090	4th March 1831	{ David Napier. James Napier. William Napier.
Boiler applicable to marine and other steam-engines, and apparatus connected therewith.	6161	16th Sept. 1831	George Holworthy Palmer.
Steam-boilers, and arrangement of the machinery attached thereto as applied to land carriages.	6421	8th May 1833	James Fraser.
Construction of vessels for sustaining the pressure of fluids; boilers and machinery of steam-engines; application of the same to locomotive purposes.	6462	14th Aug. 1833	John Scott Russell.
Improvements in the boiler and other apparatus for locomotive carriages - - - - - }	6465	20th Aug. 1833	{ Sir Charles Webb Dance. Joshua Field.
Structure of certain boilers for producing steam for the working of steam-engines.	6482	7th Oct. 1833	Joseph Maudslay.
Boilers for steam-engines, and other uses - - -	6547	23rd Jan. 1834	William Thomas Yates.
Boilers of steam-engines - - - - -	6606	12th May 1834	John M'Dowall.
Boilers applicable to fixed and locomotive engines -	6616	24th May 1834	John George Bodmer.
Apparatus to be employed in the conveyance of goods and passengers by land [ <i>steam-engine boiler</i> ].	6791	16th March 1835	William Church.
Boilers applicable to steam-engines and other purposes.	6823	28th April 1835	Charles William Rowley Rickard.
Improvements applicable to steam-engine boilers in general.	955	16th Dec. 1835	William Carpmael.
Construction of boilers for steam-engines - - -	7055	7th April 1836	John Holmes.
Boilers used in steam-engines - - - - -	7306	17th Feb. 1837	Henry Elkington.
Constructing and adapting boilers for marine, stationary, and locomotive engines; adapting and applying boilers to steam-vessels.	7743	26th July 1838	Joseph Price.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOILERS AND PANS—continued.</b>			
Steam-engine boilers - - - - -	7858	8th Nov. 1838	John Juckes.
Boilers applicable to locomotive or other engines -	8252	2nd Nov. 1839	Theobold Wahl.
Boilers for locomotive and other steam-engines, and conveying steam therefrom to the cylinders - }	8277	21st Nov. 1839	{ Robert Hawthorn. William Hawthorn.
Making boilers for marine steam-engines - -	8989	25th May 1841	John Whitehouse.
Steam-engine boilers - - - - -	9280	15th Feb. 1842	John Lewthwaite.
Boilers for rotary engines - - - - -	9398	21st June 1842	John Dickson.
Machinery to be used in manufacturing pipes and bars, and the application of such pipes or bars to various purposes [making iron tubes welded with a lap-over joint, to be used in the construction of steam-engine boilers] - - - - }	9707	20th April 1843	{ Richard Prosser. Job Cutler.
Stationary steam-boilers - - - - -	10,166	30th April 1844	{ William Fairbairn. John Hetherington.
Steam-boilers - - - - -	10,558	13th March 1845	{ John Blyth. Alfred Blyth. George Parker Hubbuck.
Marine and stationary steam-engines, and apparatus connected therewith [marine boilers].	11,199	7th May 1846	Thomas Melling.
Steam-engine boilers - - - - -	11,207	13th May 1846	Julius Jeffreys.
Construction of carriages to be used on railways [and boilers of locomotive engines].	11,216	22nd May 1846	Hugh Greaves.
Locomotive and other engines [and boilers] - -	11,234	2nd June 1846	{ William Stubbs. John Isaiah Grylls.
Steam-engines [and improvements in the boiler] -	11,294	14th July 1846	Gustaf Victor Gustaffson.
Propelling carriages on railways [boilers for locomotive-engines].	11,472	2nd Dec. 1846	William Johnson.
Steam-engine boilers, and machinery connected therewith.	11,473	3rd Dec. 1846	Thomas Craddock.
Locomotive and other boilers - - - - -	11,605	3rd March 1847	{ George Fossick. Thomas Hackworth. Thomas Elliott.
Construction of locomotive-engines to be used on rail or other ways [and boilers].	11,740	12th June 1847	William Beckett Johnson.
Improvements applicable to locomotive-engines [boilers].	11,783	13th July 1847	Alfred Vincent Newton.
Locomotive-engines [and boilers] - - - - -	11,885	7th Oct. 1847	James Pearson.
Marine steam-boilers, and apparatus connected therewith.	12,064	11th Feb. 1848	The Right Honourable Thomas Earl of Dundonald.
Apparatus used in the working of steam-boilers -	12,090	8th March 1848	Alexander Alliott.
Obtaining and applying motive-power [a tubular boiler] - - - - -	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Boilers for steam-engines - - - - -	12,644	7th June 1849	Robert Wilson.
Boilers for agricultural purposes - - - - -	12,688	7th July 1849	Richard Garrett.
Steam-engines [and boilers] - - - - -	12,708	18th July 1849	Evan Leigh.
Construction of marine-boilers - - - - -	12,737	9th Aug. 1849	Arthur Howe Holdsworth.
Manufacture of ferrules for fixing the tubes of locomotive and other boilers.	12,745	16th Aug. 1849	Louis Lemaître.
Pumps, and machinery for working the same;—applicable for working other machinery [constructing boilers].	12,783	20th Sept. 1849	William Edward Newton.
Tubes for locomotive and other boilers - - -	12,812	12th Oct. 1849	James Banister.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOILERS AND PANS—continued.</b>			
Mode of applying metal tubes in steam-boilers or other vessels requiring metal tubes to be applied within them.	13,035	11th April 1850	Richard Prosser.
Steam-engines [ <i>locomotive and other portable boilers for agricultural purposes</i> ].	13,159	3rd July 1850	Paul Rapsey Hodge.
Constructing boilers of steam-engines - - -	13,160	3rd July 1850	Wakefield Pim.
Boilers for agricultural steam-engines - - -	13,165	3rd July 1850	Richard Hornsby.
Steam-engine boilers - - - - -	13,331	22nd Nov. 1851	George Mills.
Boilers for agricultural steam-engines - - -	13,336	1st Dec. 1851	William Exall.
Manufacture of steam apparatus applicable to motive purposes [ <i>steam-boiler</i> ].	13,333	27th Dec. 1851	Joseph Stenson.
Obtaining and applying motive-power [ <i>applying internal steam-chambers in steam-boilers</i> ].	14,074	17th April 1852	William Hyatt.
Improvements in and applicable to boats, ships, and other vessels [ <i>marine engines and boilers</i> ].	14,130	22nd May 1852	Richard Roberts.
Construction of steam-boilers ;—partly applicable to marine, locomotive, and other boilers - - }	14,259	12th Aug. 1852	{ Daniel Adamson. Leonard Cooper.
<b>II.—Steam-boilers; Boilers and Pans for Manufacturing Purposes.</b>			
Making and framing boiling vessels for salt-works, and other uses.	146	20th July 1664	Samuel Hutchinson.
Small copper boiler and wooden vessel for brewing and distilling liquids and spirits.	299	28th June 1692	John Tatham.
Making and setting the vessels used in making salt, alum, copperas, &c., as well as other things where large furnaces are required.	409	14th Sept. 1716	William Ward.
Raising copper battery in common battery-mills, cold and without cramping or nailing, for brewing-furnaces, kettles, pots, and such-like articles.	463	20th Feb. 1724	Henry Hines.
Boilers for brewing and distilling - - - -	555	15th Nov. 1736	John Payne.
Boilers for making salt from sea-water - - -	614	17th Sept. 1745	Edward Fairles.
Erecting salt-pans for the boiling of salt - -	623	27th July 1747	Samuel Lucas.
Double-concave boiler with a flange for raising steam by fire, to work atmospheric engines used for raising water, and for other purposes - - }	634	12th July 1748	{ Moses Hadley. Thomas Stephens.
Machine or stove-engine for boiling sugar, soap, or other articles which require to be boiled in large vessels, and for distilling liquors.	1051	5th Aug. 1773	John Melvill.
Constructing and setting boilers for salt-works, sugar-works, brewhouses, and distilleries.	1056	17th Nov. 1773	Christopher Chrisel.
Constructing and adapting coppers, boilers, tubes, and other hollow bodies, for heating water and worts; rendering the same air-tight.	1455	17th Nov. 1784	Sutton Thomas Wood.
Machine to be used in all household purposes where boiling is required ;—applicable also in the operations of boiling, washing, distilling, and evaporating in manufactories and in mills and works where the power of steam is employed; also in heating any liquids, sand, or substance ;—in all which operations a considerable saving in fuel will be thereby effected ("British boiler").	1590	3rd Feb. 1787	John Reinecke.
Constructing boilers for distillation, and for other objects.	1673	6th Nov. 1788	James Rumsey.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOILERS AND PANS—continued.</b>			
Boilers for distilling - - - - -	1085	9th June 1789	Mary Howson.
Construction and fixing of boilers and coppers -	2102	7th Feb. 1797	John Grover.
Economical boilers for sundry purposes - - -	2302	6th April 1799	Robert Delap.
Boilers applicable to salt-pans, or any other purpose	2316	28th May 1799	John Wilkinson.
Construction of boilers for generating steam - -	2560	28th Nov. 1801	Joseph Bramah.
Boilers for manufacturing sugar; mode of fixing } the same - - - - -	2958	20th Aug. 1806	{ Josias Robbins. James Curtis.
Setting coppers and boilers - - - - -	3101	26th Jan. 1808	Thomas Breston.
Setting up salt-pans - - - - -	3622	14th Dec. 1812	John Spencer.
Still and boiler for preventing accidents by fire, and for preserving spirits and other articles from waste in distilling and boiling.	3737	4th Sept. 1813	Frank Parkinson.
Construction of copper and iron sugar-pans and sugar-boilers; hanging the same; construction of furnaces in which the same ought to be placed.	3771	20th Dec. 1813	John Sutherland.
Steam-boiler and apparatus for the purpose of washing, steaming, cleansing, and whitening cloth- ing and cloth, and for warming or heating closets, laundries, and other rooms.	3790	12th March 1814	John Slater.
Making salt-pans, thereby saving fuel and labour -	3916	26th May 1815	John Pugh.
Making cast-iron boilers for evaporating the juice of sugar cane [ <i>annealing them in a furnace</i> ].	4276	11th July 1818	John Baird.
Construction of boilers to effect a saving of fuel and consumption of smoke.	4544	16th March 1821	Henry Browne.
Setting or fixing steam-boilers or other coppers -	4754	14th Feb. 1823	Nathaniel Partridge.
Apparatus for applying steam to the boiling and concentrating of solutions, crystallizing muriate of soda from brines containing that salt, melting and refining tallow and oils, boiling of sugar, distilling, and other similar purposes [ <i>construction of a boiler</i> ].	4805	19th June 1823	James Smith.
Manufacture of salt [ <i>boiler for evaporating salt</i> ] -	5046	4th Dec. 1824	William Furnival.
Boiler for generating steam - - - - -	5344	14th March 1826	James Neville.
Applying heat to certain useful purposes [ <i>steam- boiler</i> ] - - - - -	5427	13th Dec. 1826	{ Charles Pearson. Richard Witty. William Gillman.
Steam machinery or apparatus [ <i>boiler, or steam- generator</i> ].	5429	13th Dec. 1826	John Castigin.
Boilers used for making salt, commonly called salt- pans;—mode of applying heat to brine.	5463	4th April 1827	Joseph Tilt.
Cooking apparatus [ <i>portable steam-boiler, heated by a lamp</i> ].	5608	15th Jan. 1828	William Erskine Cochrane.
Communicating heat for various purposes [ <i>boiler for evaporating or generating steam surrounded by a bath of spirits of turpentine, acting in a vessel placed between the boiler and furnace</i> ] - - -	5609	19th Jan. 1828	{ Joshua Taylor Beale. George Richardson Porter.
Construction of steam boilers and generators - -	5629	20th March 1828	Samuel Clegg.
Boiler, or generator of steam - - - - -	5714	9th Oct. 1828	Thomas Tippet.
Evaporating sugar [ <i>boiler for evaporating syrup</i> ] -	5718	27th Nov. 1828	William Godfrey Kneller.
Constructing steam boilers or generators - - -	5823	1st Aug. 1829	Joshua Bates.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOILERS AND PANS—continued.</b>			
Apparatus for communicating heat by means of the circulation of fluids [ <i>boiler for heating air by means of vertical tubes passing through the same, for warming hothouses</i> ] - - - - -	5833	20th Aug. 1829	{ Henry Cruger Price. Charles Fox Price.
Steam-boilers, and mode of quickening the draught for furnaces in connection therewith - - - - -	5923	30th March 1830	{ John Rawe, jun. John Boase.
Boilers, and method of increasing draught - - - - -	5956	19th July 1830	{ John Rawe, jun. John Boase.
Evaporating fluids;—applicable to various purposes [ <i>and boilers for the purpose</i> ].	6032	6th Nov. 1830	Joseph Gibbs.
Boilers and generators of steam or other vapour - - - - -	6172	23th Sept. 1831	Miles Berry.
Steam-boilers - - - - -	6262	28th April 1832	Sir Charles Webb Dance.
Steam-boilers - - - - -	6364	15th Jan. 1833	Walter Hancock.
Construction of steam-boilers - - - - -	6376	29th Jan. 1833	John Linton.
Boilers or generators of steam or vapour - - - - -	6390	21st Feb. 1833	Alexander Gordon.
Boilers for generating steam - - - - -	6449	18th July 1833	{ John Squire. Francis Maceroni.
Manufacture of boilers for generating steam - - - - -	6495	28th Oct. 1833	George Frederick Muntz.
Additions to boilers applicable to various purposes.	6545	18th Jan. 1834	Jean Jacques Leopold Oberlin.
Boilers for generating steam - - - - -	6693	11th Oct. 1834	Thomas Scarle.
Improvements on or additions to boilers or apparatus for producing motive-power.	6786	11th March 1835	William Hale.
Boilers for generating steam and for heating water and other fluids.	6897	24th Sept. 1835	Joel Spiller.
Means of connecting metallic plates for the construction of boilers, and for other purposes.	7126	22nd June 1836	Robert Smith.
Steam-boilers - - - - -	7145	13th July 1836	Elisha Haydon Collier.
Steam-boilers;—applicable to other purposes - - - - -	7242	3rd Dec. 1836	James Perkins.
Means of connecting metallic plates for the construction of boilers, and for other purposes.	7302	16th Feb. 1837	Robert Smith.
Improvement applicable to steam-generators - - - - -	7392	17th June 1837	James Leonard Clement Thomas.
Steam-boilers - - - - -	7417	17th Aug. 1837	William Gillman.
Construction of boilers for the generation of steam and for heating water or other fluids - - - - -	7422	24th Aug. 1837	{ William Hearn. William Davies.
Boiler or apparatus for generating steam - - - - -	7436	21st Sept. 1837	William Joseph Curtis.
Boilers used for the generation of steam - - - - -	7467	11th Nov. 1837	James Slater.
Construction of boilers - - - - -	7524	8th Oct. 1838	John Browne.
Apparatus applicable to steam-boilers - - - - -	7921	3rd Jan. 1839	Henry Robert Abraham.
Construction of steam-boilers - - - - -	7958	29th Jan. 1839	Frank Hills.
Steam-boilers - - - - -	7990	6th March 1839	Walter Hancock.
Boilers for generating steam and economizing fuel - - - - -	8006	20th March 1839	{ John Ruthven. Morris West Ruthven.
Steam-boilers - - - - -	8111	17th June 1839	Henrik Zander.
Boilers for economy of fuel and heat - - - - -	8118	22nd June 1839	Charles Wye Williams.
Apparatus applicable to steam-boilers, to render them more safe.	8217	11th Sept. 1839	Moses Poole.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOILERS AND PANS—continued.</b>			
Steam-boilers or generators - - - - -	8229	27th Sept. 1839	Francis Maceroni.
Constructing boilers - - - - -	8370	31st Jan. 1840	Phillippe Marie Moindron.
Steam-boilers - - - - -	8432	16th March 1840	Thomas Craddock.
Construction of steam-boilers - - - - -	8495	5th May 1840	Frank Hills.
Boilers - - - - -	8600	8th Aug. 1840	Samuel Howard.
Construction of boilers - - - - -	8708	17th Nov. 1840	Charles Wye Williams.
Construction of steam-boilers - - - - -	8813	26th Jan. 1841	Nathaniel Waddington.
High-pressure and other steam-boilers - - - - -	9037	28th July 1841	Anthony Bernhard Von Rathen.
Boilers - - - - -	9138	4th Nov. 1841	Henry King.
Construction of steam-boilers or generators - - - - -	9159	16th Nov. 1841	John Squire.
Construction of boilers for generating steam - - - - -	9168	9th Dec. 1841	John Hall.
Steam-boiler - - - - -	9212	11th Jan. 1842	Edward Hall.
Boilers - - - - -	9260	15th Feb. 1842	John Lewthwaite.
Boilers - - - - -	9293	10th March 1842	William Edward Newton.
Steam-boilers - - - - -	9439	9th Aug. 1842	David Napier.
Boilers - - - - -	9516	8th Nov. 1842	Henrik Zander.
Boilers, and machinery in connection therewith - - - - -	9553	9th Dec. 1842	Percival Moses Parsons.
Steam-boilers - - - - -	9560	15th Dec. 1842	James Winchester.
Steam-boilers or generators - - - - -	9564	21st Dec. 1842	John Squire.
Steam-boilers - - - - -	9684	30th March 1843	Frank Hills.
Boilers - - - - -	9699	19th April 1843	{ Charles Tayleur. James Frederick Dupré. Henry Dubs.
Construction of steam-boilers - - - - -	9706	20th April 1843	James Johnston.
Steam-boilers - - - - -	9804	27th June 1843	Richard Waller.
Construction of boilers or generators for producing steam. - - - - -	9809	30th June 1843	Charles Tetley.
Boilers or apparatus for generating steam - - - - -	9852	25th July 1843	David Napier.
Boilers - - - - -	9859	3rd Aug. 1843	{ Peter Borrie. Mayer Henry.
Boilers - - - - -	9866	15th Aug. 1843	George Bennetts.
Boilers - - - - -	9899	5th Oct. 1843	John George Bodmer.
Steam-boilers - - - - -	10,037	8th Feb. 1844	James Johnston.
Steam-boilers - - - - -	10,107	14th March 1844	Moses Poole.
Construction of boilers for evaporating saline and other solutions for crystallization - - - - -	10,221	6th June 1844	{ David Bellhouse. William Higham.
Boilers - - - - -	10,245	3rd July 1844	Octavius Henry Smith.
Boilers - - - - -	10,531	20th Feb. 1845	Samuel Hall.
Steam-boilers - - - - -	10,594	7th April 1845	John Dewrance.
Steam-boilers - - - - -	10,765	12th July 1845	Joseph Fulton Meade.
Machinery for connecting metallic plates for the construction of boilers, and for other purposes. - - - - -	10,993	10th Dec. 1845	James Garforth.
Construction of steam-boilers - - - - -	11,221	26th May 1846	James Montgomery.
Setting and fixing coppers, stills, and boilers - - - - -	11,266	29th June 1846	Joseph Moreland.
Steam-boilers, and machinery connected therewith - - - - -	11,473	3rd Dec. 1846	Thomas Craddock.
Apparatus to be applied to steam-boilers - - - - -	11,655	15th April 1847	Alfred Vincent Newton.
Improvements applicable to the construction of tubular boilers. - - - - -	11,718	27th May 1847	Alexander Allan.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOILERS AND PANS—continued.</b>			
Steam-boilers - - - - -	12,080	8th March 1848	William Exall.
Construction and arrangement of boilers - -	12,190	16th June 1848	George Emmott.
Steam-boilers - - - - -	12,217	18th July 1848	Joseph Stenson.
Construction and arrangement of boilers for the } generation of steam - - - - - }	12,300	26th Oct. 1848	{ James Burrows. George Holcroft.
Manufacture of sugar [arrangement of boilers] -	12,335	21st Nov. 1848	William Hood Clement.
Boilers - - - - -	12,344	29th Nov. 1848	{ John Lane. John Taylor.
Steam-boilers; apparatus connected therewith -	12,362	9th Dec. 1848	{ Andrew Lamb. William Alltoft Summers.
Heating apparatus, and applying hot and warm air to manufacturing and other purposes where the same are required [construction of steam-boilers].	12,517	14th March 1849	Alexander Swan.
Boilers or steam-generators - - - - -	12,577	17th April 1849	William Edward Newton.
Steam-boilers - - - - -	12,663	20th June 1849	Alexander Francis Campbell.
Steam-boilers - - - - -	12,748	23rd Aug. 1849	William Edward Newton.
Steam-boilers - - - - -	12,750	30th Aug. 1849	Thomas Symes Prideaux.
Generating and applying motive-power [steam-boilers].	12,815	18th Oct. 1849	Ethan Campbell.
Boilers - - - - -	12,880	10th Dec. 1849	{ Jonah Davies. George Davies.
Treating peat and other carbonaceous and ligneous matters so as to obtain products therefrom [and making tubular boilers for generating steam].	12,990	7th March 1850	William Benson Stones.
Manufacture of boilers, of malleable substances -	13,037	15th April 1850	Edmé Augustin Chameroy
Construction and setting of steam-boilers - -	13,041	15th April 1850	{ John Turner. Joseph Hardwick.
Steam-boilers - - - - -	13,095	1st June 1850	John Tucker.
Steam-boilers - - - - -	13,138	19th June 1850	Charles Hanson.
Steam-boilers or generators - - - - -	13,235	22nd Aug. 1850	William Edward Newton.
Working steam-boilers and apparatus connected therewith.	13,419	19th Dec. 1850	David Auld.
Boilers - - - - -	13,552	11th March 1851	{ William Galloway. John Galloway.
Boilers - - - - -	13,598	24th April 1851	William Andrews.
Boilers for generating steam - - - - -	13,615	3rd May 1851	Edwin Rose.
Steam-boilers - - - - -	13,641	27th May 1851	Archibald Slate.
Steam-boilers or generators - - - - -	13,691	17th July 1851	John Hick.
Boilers - - - - -	13,705	31st July 1851	Charles Cowper.
Boilers - - - - -	13,843	8th Dec. 1851	Joseph Harrison.
Construction of boilers for generating steam -	13,874	19th Dec. 1851	William Emery Milligan.
Constructing steam-boilers - - - - -	13,992	27th Feb. 1851	Charles John Mare.
Boilers for generating steam - - - - -	14,023	11th March 1852	Benjamin Goodfellow.
Apparatus for heating and evaporating [steam-boilers] - - - - -	14,064	15th April 1852	{ Thomas Ellwood Horton Elisha Wilde.
Vacuum-pans for the evaporation and crystallization of saccharine and other solutions.	14,141	25th May 1852	Joseph Walker, junior.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOILERS AND PANS—continued.</b>			
Steam-boilers - - - - -	14,153	3rd June 1852	Samuel Morris.
Boilers and other vessels for containing fluids -	14,182	24th June 1852	James Edward McConnell.
Boilers - - - - -	14,189	24th June 1852	John McConochie.
Steam-boilers - - - - -	14,341	6th Nov. 1852	Louis Armier.
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<b>BOOTS, SHOES, CLOGS, PATTENS, &amp;c.</b>			
<b>I.—Making and cutting out.</b>			
Spring boots - - - - -	1141	16th Dec. 1776	Robert Daniel.
Shoes, clogs, and pattens - - - - -	1184	6th March 1778	Thomas Bean.
Women's clogs or goloc-shoes - - - - -	1210	3rd Feb. 1779	Joseph Burton.
New invented shoe - - - - -	1850	13th Jan. 1783	John Stedman.
Clogs - - - - -	1469	22nd March 1785	Alexander Gillies.
Sandal clogs - - - - -	1450	13th May 1785	Ann Morse.
Making boots, half-boots, spatterdashes, or gaiters } without any seam in the instep; making shoes } without a heel-seam or side-seam - - - }	1503	3rd Nov. 1785	{ Joseph Willis. William Saunders.
Machine for cutting out shoes and slippers, and embellishing the same with gold and silver.	1526	31st Jan. 1786	John Bull.
Shoe and slipper - - - - -	1654	30th June 1788	James Tylce.
Heel-case of silver, gold, plated iron, or other metal, for shoes, boots, and slippers.	1695	30th July 1789	John Bulkeley.
Making and completing shoes, boots, spatterdashes, clogs, and other articles, by means of tools or machines for the purpose.	1794	17th July 1790	Thomas Saint.
Lap half-boot - - - - -	1870	18th April 1792	Samuel Burman.
Machine for manufacturing feathers into shoes -	1874	3rd May 1792	Andrew Primerose.
Manufacturing shoes and boots with soles of pre- pared leather.	1914	30th Oct. 1792	Barnett Guest.
Making pattens - - - - -	2268	15th Nov. 1798	Jethro Hornblower.
Making women's pattens - - - - -	2402	15th May 1800	William Milner.
Patten or clog - - - - -	2509	2nd June 1801	Josiah Longmore.
Pattens and clogs - - - - -	3135	24th May 1808	John Stedman.
Manufacturing boots, shoes, and other articles by means of a substitute for thread, made of hemp, flax, or other yarns.	3207	21st Feb. 1809	David Mead Randolph.
Machinery for making boots and shoes - -	3369	2nd Aug. 1810	Marc Isambard Brunel.
Manufacturing boots and shoes and other articles -	3392	8th Oct. 1810	Richard Woodman.
Making boots and shoes without sewing, and im- pervious to wet;—applicable to other purposes.	4069	25th Oct. 1816	Louis Fauche Borel.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOOTS, SHOES, CLOGS, &amp;c.—continued.</b>			
Machine for making wooden clogs or pattens, clog-soles, and Devonshire clogs.	4244	8th April 1818	William Booth.
Moveable heel for boots, shoes, and for other purposes.	4294	7th Sept. 1818	Henry Stubbs.
Manufacture of boots, shoes, and clogs by the application of materials hitherto unused for the purposes [ <i>making the sides from whalebone or whalefin</i> ].	4403	1st Nov. 1819	William Archer Deacon.
Manufacture of boots and shoes [ <i>without seams</i> ] -	4408	1st Nov. 1819	William Hudson.
Improvements applicable to boots - - - -	4766	18th March 1823	Thomas Rogers.
Constructing gambadoes or mud-boots, and attaching spurs thereto.	4834	13th Nov. 1823	Richard Green.
Pattens and clogs, or substitutes for them [ <i>with joints to fit the foot in walking</i> ] - - - -	4883	27th Dec. 1823	{ Thomas Greenwood. Joseph Thackrah.
Engine or machine for making the following articles from one piece of leather, without any seam or sewing whatever; that is to say, all kinds of shoes and slippers.	4923	20th March 1824	Jean Henry Petitpierre.
Manufacture of boots and shoes [ <i>with soles of wood, jointed</i> ].	4965	31st May 1824	James Holland.
Construction of clogs, pattens, or substitutes for the same [ <i>with means of elongating or contracting</i> ].	5360	6th May 1826	Joseph Schaller.
Manufacture of iron heels and tips for boots and shoes.	5501	13th June 1829	Robert Porter.
A substitute for pattens or clogs ("Myatt's health preserver").	6170	27th Sept. 1831	John Myatt.
Machinery for manufacturing iron and other metal tips for heels and toes of shoes and other articles }	6323	22nd Oct. 1832	{ Alexander Stocker. William Southwood Stocker.
Construction of boots and shoes - - - -	6888	22nd Aug. 1835	William Johnson.
Construction of boots and shoes or other coverings for the human feet.	7423	2nd Dec. 1837	James Dowie.
Clogs - - - - -	7928	11th Jan. 1839	Moses Poole.
Machinery for manufacturing shoe-heels and toe-tips	8162	20th July 1839	{ Alexander Southwood Stocker. Thomas Johnson.
Manufacture of boots, shoes, and coverings for the legs.	8241	17th Oct. 1839	Robert Edmund Morrice.
Fastening and uniting the edges of the divided parts of shoes, boots, bandages, packages, and other articles of dress or utility.	8416	7th March 1840	Caroline Julia Sophia Cox.
Apparatus for preventing splashing in walking [ <i>applying metal shields to the heels of boots and shoes</i> ].	9137	2nd Nov. 1841	Edward Robert Simmons.
Construction of clogs and pattens - - - -	9201	21st Dec. 1841	William Carson.
Manufacture of boots and shoes - - - -	9232	27th Jan. 1842	William Baker.
Clogs, applicable in part to boots and shoes - -	9236	27th Jan. 1842	Samuel Mason.
Construction and manufacture of boots, half-boots, shoes, clogs, and goloshes.	9318	8th April 1842	Marc Carlotti.
Manufacture of boots and shoes - - - -	9326	21st April 1842	William Noel.
Manufacture of mud-boots and overalls - - - -	9349	12th May 1842	John Browne.
Manufacture of shoes and slippers - - - -	9436	3rd Aug. 1842	Archibald Turner.
Manufacture of boots, shoes, and other articles of wearing-apparel.	9544	8th Dec. 1842	William Kempson.
Manufacture of boots, shoes, and clogs - - - -	9546	8th Dec. 1842	Richard Barber.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOOTS, SHOES, CLOGS, &amp;c.—continued.</b>			
Manufacture of boots, shoes, slippers, and clogs; apparatus for the same; preparing materials for the purpose. - - - - -	9782	15th June 1843	{ Samuel Mason. Caleb Bedells.
Heels and soles of boots and shoes - - - - -	9814	3rd July 1843	James Verity.
Boots and shoes and other covering for the feet - - - - -	9819	6th July 1843	{ John Wright. Richard Wright.
Manufacture of boots, shoes, goloshes, and clogs - - - - -	9997	28th Dec. 1843	Robert Noyes Elven.
Machine for manufacturing boot-soles and taps, and for other purposes.	10,084	27th Feb. 1844	Thomas Harbottle.
Construction of boots, shoes, and other coverings for the legs and feet; and also means of and apparatus for fastening the same upon the leg or foot.	10,509	4th Feb. 1845	William Henry Smith.
Boots, shoes, gaiters, overalls, and other like articles of wearing-apparel.	10,692	29th May 1845	Charles Keene.
Manufacture of boots and shoes - - - - -	11,217	22nd May 1846	Charles Wright.
Manufacture of clogs - - - - -	11,383	24th Sept. 1846	James Lamb.
Manufacture of boots, shoes, and clogs - - - - -	11,392	2nd Oct. 1846	Pierre Bryere.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of boots and shoes</i> ] - - - - -	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Boot and shoe - - - - -	11,702	14th May 1847	John Thomas Gray.
Manufacture of boots and shoes - - - - -	11,909	14th Oct. 1847	David Fisher.
Dress-fastenings, and attaching the same; articles made wholly or in part of certain flexible materials [ <i>making Wellington tops suitable for wearing with short boots</i> ].	12,120	12th April 1848	John Masters.
Manufacture of boots and shoes - - - - -	12,221	26th July 1848	William Thomas.
Manufacture of boots, shoes, and clogs - - - - -	12,296	26th Oct. 1848	James Clark.
Manufacture of heels for boots and shoes; also swivels.	12,392	28th Dec. 1848	Moses Poole.
Manufacture of boots and shoes;—applicable to other fabrics.	12,423	16th Jan. 1849	Edward Buchler.
Machinery for perforating, sewing, stitching, pegging, and riveting.	12,462	8th Feb. 1849	Robert Brown.
Manufacture of airproof and waterproof fabrics, and preparation of caoutchouc and gutta-percha either alone or in combination with other materials, the same being applicable to articles of wearing-apparel, bands, straps, and other similar useful purposes [ <i>heels and soles of boots and shoes</i> ].	12,591	26th April 1849	William Henry Burke.
Boots and shoes; manufacture of parts of boots and shoes; goloe-shoes.	12,709	18th July 1849	Thomas Walker.
Improvements applicable to boots, shoes, and other coverings for or appliances to the feet.	12,103	6th June 1850	William Edward Newton.
Clogs and pattens - - - - -	12,143	19th June 1850	George Robarts.
Manufacture of looped fabrics [ <i>used in making the socks or uppers of boots</i> ] - - - - -	12,253	12th Sept. 1850	{ Robert Langdon. Thomas Parker Tabberer.
Manufacture or production of boots and shoes; materials and machinery or apparatus to be employed therein - - - - -	12,382	4th Dec. 1850	{ Julian Bernard. Jean Baptiste Dureuille.
Boots and shoes - - - - -	12,482	31st Jan. 1851	Charles Marsden.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>Boots, Shoes, Clogs, &amp;c.—continued.</b>			
Manufacture of boots and shoes; also machinery and materials to be used therein.	13,611	30th April 1851	Philip Webley.
Making boots and shoes - - - - -	13,621	3rd May 1851	James Pyke.
Boots and shoes - - - - -	13,668	17th June 1851	John Machine.
Manufacture or production of boots and shoes; materials, machinery, and apparatus connected therewith [ <i>fastening soles and heels by pegs formed of leather; fastening parts of shoes together by forcing plastic materials into holes</i> ].	13,831	27th Jan. 1852	Julian Bernard.
Boots, shoes, clogs, and similar articles [ <i>ventilating</i> ]	14,221	15th July 1852	Moses Poole.
Manufacture or production of boots and shoes; materials, machinery, and apparatus connected therewith.	14,287	10th Sept. 1852	Julian Bernard.
Manufacture of boots and shoes, partly applicable to manufacture of various other articles of dress.	14,305	30th Sept. 1852	Auguste Edouard Lora-doux Belford.
<b>II.—Boot-trees and Lasts.</b>			
Machinery for cutting out irregular forms in wood or any other substance, by tools with continuous or reciprocating circular motion [ <i>cutting out lasts with a lathe</i> ].	4652	2nd March 1822	John William Buckle.
Manufacture of boot and shoe trees, lasts, and stretchers.	10,089	14th March 1844	Charles Roberts.
Machinery for making lasts for boots and shoes and other irregular forms.	11,880	30th Sept. 1847	Ignacio De Barros.
Machinery for making lasts for boots and shoes and other irregular forms.	12,519	14th March 1849	Ignacio De Barros.
<b>III.—Skates.</b>			
Making skates and fixing them on - - - - -	1458	4th Dec. 1784	John Horatio Savigny.
Skates, and fixing the same on the feet - - - - -	4346	4th March 1819	William Milward.
Apparatus to be attached to boots, shoes, and other coverings for the feet, for the purpose of travelling or pleasure [ <i>a series of rollers</i> ].	4782	22nd April 1823	Robert John Tyers.
Skates - - - - -	5889	26th Jan. 1830	James Cobbing.
Skates - - - - -	6062	18th Jan. 1831	{ John Rodgers. George Rodgers. Thomas Fellows.
<b>IV.—Boot-jacks.</b>			
Portable boot-jack, with a guard to prevent accidents to the legs in pulling off boots.	3042	11th May 1807	Francis Frome.
Apparatus used in drawing boots on and off [ <i>jacks and hooks folded in a compact form</i> ].	5414	4th Oct. 1826	Francis Halliday.
Apparatus for drawing on boots and pulling them off.	6630	17th June 1834	Isaac Jecks.
Apparatus for facilitating the putting on of boots to the feet - - - - -	11,121	11th March 1846	{ Mark Walker. William Green.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BORING, DAILLING, PUNCHING.</b>			
<b>I.—Earth, Stones, &amp;c.</b>			
Engine for boring stone in either a straight, square, or circular direction or form, for pipes, pumps, and other uses.	498	21st May 1728	Bryan Moore.
Apparatus for boring the earth for coal or other substances;—applicable to sinking wells, giving vent to water in bogs, draining mines and grounds, ventilating pits, and to other purposes.	2822	12th Feb. 1805	James Ryan.
Boring and forming pipes, cylinders, columns, and circular discs out of solid blocks and slabs of stone.	3292	15th Jan. 1810	William Murdock.
Machinery, tools, or apparatus for boring the earth for the purpose of obtaining and raising water.	4838	20th Aug. 1823	John Goode.
Machine for boring or perforating stones - - -	7507	13th Dec. 1837	Thomas Hunter.
Apparatus for boring in the earth and in stone -	10,258	12th July 1844	Robert Beart.
Boring earth, stone, and subterraneous matter; machinery, tools, or apparatus applicable to the same }	10,752	3rd July 1845	{ William Mather. Colin Mather.
Apparatus for boring into the earth - - -	11,548	28th Jan. 1847	James Taylor.
Machinery or implements for boring and sinking -	11,913	21st Oct. 1847	William Gostwyck Gard.
Obtaining and applying motive-power [boring holes in stone] - - - - -	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Process and instruments used for boring the earth and sinking shafts of any given diameter for mining and other purposes - - - - -	18,478	30th Jan. 1851	{ Charles Gotthelf Kind. Charles Alexis De Wendel.
<b>II.—Metals.</b>			
Machine for boring iron - - - - -	1263	23rd April 1780	James Pickard.
Machine to be worked by steam, water, or horses, for the purpose of boring cylinders.	2673	22nd Dec. 1802	Michael Billingsley.
Machine for perforating metal, plates of gold, silver, tin, platina, brass, or copper, being applicable to all the purposes of sieves hitherto employing either canvas, linen, or wire.	5241	15th Aug. 1825	Marc La Riviere.
Machinery to be applied to stamps, fly-presses, or other presses for perforating metal plates;—applicable to other purposes.	5300	28th Nov. 1825	Marc La Riviere.
Tools or apparatus for boring metals and other materials.	6850	11th June 1835	Joseph Whitworth.
Tools or apparatus for boring metals and other materials.	7332	28th March 1837	Joseph Whitworth.
Tools or apparatus for boring metals and other materials.	7441	5th Oct. 1837	Joseph Whitworth.
Machinery for punching metal, and for holding or securing metal to be so operated upon; parts of which machinery are adapted to operate on other materials.	7556	30th Jan. 1838	Charles Phillips.
Machinery, tools, or apparatus for drilling metals and other substances.	7881	22nd Nov. 1838	John George Bodmer.
Drilling-machine - - - - -	8043	23rd April 1839	John Miller.
Machinery, tools, or apparatus for drilling metals and other substances.	8070	20th May 1839	John George Bodmer.
Tools or apparatus for boring metals and other substances.	8189	7th Aug. 1839	Joseph Whitworth.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BORING, DRILLING, PUNCHING—continued.</b>			
Machinery for boring metals and other substances -	8198	15th Aug. 1839	John Mason.
Machinery to be used as an universal chuck for turning and boring purposes; also applicable to other purposes.	8707	19th Nov. 1840	Alexander Steven.
Machinery for boring metals and other substances -	8720	25th Nov. 1840	Nathaniel Batho.
Machinery for punching and compressing metals -	9238	27th Jan. 1842	{ William Galloway. John Galloway. Joseph Haley.
Machinery for boring metals and other substances -	10,369	29th Oct. 1844	Thomas Fuller.
Machinery for punching metal plates - - -	11,168	15th April 1846	Charles May.
Machinery for punching metals - - -	11,381	24th Sept. 1846	Charles Fox.
Machinery for punching and perforating metals -	11,607	5th March 1847	Richard Roberts.
Machinery, and the arrangements thereof, for punching metals and other substances.	11,767	26th June 1847	Robert Wilson.
Machinery for drilling metals and other substances	12,284	12th Oct. 1848	{ Daniel Watney. John James Wentworth.
Machinery for boring metals and other materials -	12,551	28th March 1849	{ James Fletcher. Thomas Fuller.
Manufacturing a certain part or parts of looms for weaving [ <i>perforating metal for mails used in weaving</i> ].	12,608	14th May 1849	Samuel Allport.
Apparatus for perforating - - - - -	12,853	7th June 1849	Henry Knight.
Machinery for punching metals - - - - -	12,926	12th Jan. 1850	John Glasgow.
Machinery for punching metals - - - - -	13,090	1st June 1850	Moses Poole.
Machinery for weaving cotton, flax, and other fibrous substances; constructing and applying models for moulding, preparatory to casting parts of such machinery; tools to be used in making such machinery [ <i>a boring-machine and a slide-lathe for boring cylinders</i> ] - - - - -	13,208	31st July 1850	{ Peter Fairbairn. John Hetherington.
Punching metals - - - - -	13,792	30th Oct. 1851	Michael Scott.
Machinery for punching metals and other substances [ <i>For "Boring and rifling Fire-arms," see "WEAPONS OF DEFENCE."</i> ]	14,315	7th Oct. 1852	Solomon Andrews.
<b>III.—Wood.</b>			
Boring timber with a wooden auger - - -	127	24th June 1642	{ William Wheeler. John Crupley.
Engine for boring timber - - - - -	311	17th Jan. 1693	{ George Nation. John Dewee. Thomas Puckle.
Machine for boring timber for pumps, water-pipes, and other purposes.	2499	12th May 1801	Joseph Chirm.
Machinery for boring and manufacturing wood;—applicable to various purposes.	6531	23rd Dec. 1833	James Hamilton.
Machinery for boring wood - - - - -	12,735	9th Aug. 1849	William Furness.
Boring and shaping wood - - - - -	13,000	7th March 1850	{ Frederick Rosenberg. Conrad Montgomery.
Machinery for boring wood - - - - -	13264	28th Sept. 1850	James Hamilton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOTTLES, VESSELS, AND JARS.—COVERS AND STOPPERS.</b>			
<b>I.—Bottles and other Vessels.</b>			
Working and making flask-cases; covering and casing flask-glasses with flags, rushes, and straw	386	2nd Aug. 1709	Jane Tasker.
Vessels for containing liquids - - - - -	8637	15th Jan. 1813	Robert Dickinson.
Manufacturing glass bottles for wine, porter, beer, or cyder [ <i>of a precise capacity, in moulds</i> ].	4623	5th Dec. 1821	Henry Ricketts.
Constructing the necks of bottles - - - -	8395	22nd Feb. 1840	{ Job Cutler. Thomas Gregory Hancock.
Bottles for retaining, keeping, and preserving liquids impregnated with gas.	8421	7th March 1840	Hayward Tylor.
Manufacture of decanters and other articles of glass.	8470	15th April 1840	John Gold.
Making and closing metallic collapsible vessels -	9480	29th Sept. 1842	John Rand.
Bottles for containing gaseous liquors - - -	9626	11th Feb. 1843	Robert Hicks.
Vessels used for containing aerated liquors - -	9713	25th April 1843	{ William Mayo. John Warmingtton.
Glass bottles for wine and other liquids - -	9980	6th Sept. 1843	Alexander Spears.
Manufacture of glass and other vessels so that corks for the same are more easily applied; apparatus for extracting such corks when required to be released.	9963	8th Dec. 1843	Alexander Southwood Stocker.
Construction of vessels for holding aerated liquids -	10,148	18th April 1844	James Murdoch.
Bottles, jars, pots, and other similar vessels; manufacturing, stoppering, and covering the same - }	10,449	30th Dec. 1844	{ William Betts. Alexander Southwood Stocker.
Construction of vessels to contain liquids and substances; drawing off such liquids from the same, and closing such vessels.	10,698	3rd June 1845	Moses Poole.
Flexible bottles and other like vessels - - -	10,825	4th Sept. 1845	Henry Bewley.
Vessels to contain aerated and mineral waters -	10,999	10th Dec. 1845	Frederick Gye, junior.
Manufacturing bottles and other similar vessels; stopping or covering the same; manufacture and application of the whole or part of the articles used.	11,223	28th May 1846	Alexander Southwood Stocker.
Bottles and other vessels - - - - -	11,362	31st Aug. 1846	Frederick Henry West.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of bottles</i> ] - }	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Handles to be applied to articles containing liquids or other matters liable to be spilt.	11,855	6th Sept. 1847	John Barke Gustavus Ferryman.
Apparatus for containing human food and drinks -	11,992	8th Dec. 1847	John Britten.
Bottles or vessels for containing liquids - - -	12,019	11th Jan. 1848	{ Alfred Augustus de Reginald Hely. Joseph Emmett Norton.
Bottles or other vessels; securing corks or stoppers in bottles or other vessels.	12,330	18th Nov. 1848	Thomas Masters.
Vessels for holding solids or fluids; machinery for manufacturing such vessels.	12,616	22nd May 1849	Solomon Israel da Costa.
Metallic vessels for holding liquids - - - -	13,157	3rd July 1850	Richard Winter.
Apparatus for retaining soda-water and other aerated liquors.	13,455	16th Jan. 1851	Charles Cowper.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOTTLES, VESSELS, &amp;c.—continued.</b>			
Apparatus for containing soda-water and other gaseous liquids, and also preserving other substances from evaporation.	13,525	24th Feb. 1851	Gabriel Didier Fevre.
Apparatus for holding aerated liquors - - -	13,796	3rd Nov. 1851	François Marie Lanoa.
Retaining aerated and other liquids - - -	13,857	11th Dec. 1851	Thomas Masters.
Manufacture of bottles and jars of glass, clay, gutta-percha, or other plastic materials; caps and stoppers for the same; machinery for pressing and moulding the said materials.	14,059	15th April 1852	François Joseph Beltzung.
Apparatus for containing liquids; ornamenting such apparatus.	14,300	23rd Sept. 1852	François Mathieu.
<b>II.—Closing and stoppering Bottles; also Stoppers and Capsules.</b>			
Making and rendering stoppers of bottles, jars, &c., air-tight.	3788	12th March 1814	Edward Steers.
Improvements on or substitutes for stoppers, covers, or lids, such as are used for bottles, tobacco and snuff boxes, ink-holders, and various other articles [ <i>an air-tight metallic stopper formed of three parallel sliding plates</i> ].	4540	3rd March 1821	Robert Burton Cooper.
Corking bottles [ <i>by force of a lever</i> ] - - -	5113	5th March 1825	John Masterman.
Securing volatile and other fluids and concrete or other substances, in bottles and vessels [ <i>by placing a collar of caoutchouc round the stopper</i> ].	5304	3rd Dec. 1825	Henry Berry.
Machinery for grinding covers or stoppers for jars, bottles, and other vessels made of china, stone, or other earthenware.	6523	11th Dec. 1833	John Wisker.
Metallic air and water stop and stopper - - -	6811	14th April 1835	Samuel Parker.
Screws used for fastening the mouths of perfume, liqueur, and medicine bottles, also for fastening the mouths of jars and tumblers.	7026	8th March 1836	George Lawrence.
Retaining fluids in bottles, decanters, and other vessels.	8369	31st Jan. 1840	William Brockedon.
Tops of scent-bottles - - - - -	9273	3rd March 1842	George Carter Haseler.
Manufacturing fibrous materials for the cores of stoppers, to be coated with india-rubber and used for stopping bottles and other vessels.	9303	21st March 1842	William Brockedon.
Covering and stopping the necks of bottles - - -	9445	11th Aug. 1842	John Thomas Betts.
Closing metallic collapsible vessels - - -	9480	29th Sept. 1842	John Rand.
Manufacture of metal covers for bottles and other vessels; manufacture of sheet metal for the purpose.	9665	16th March 1843	John Thomas Betts.
Covering and stopping the tops of boxes, jars, pots, and other vessels.	9805	27th June 1843	John Thomas Betts.
Securing corks or substitutes for corks in the mouths of bottles and such-like vessels, whether earthenware, stoneware, or glass.	9875	24th Aug. 1843	William Fletcher.
Confining corks or substitutes for corks in bottles and other vessels of glass, earthenware, or stoneware, containing liquids - - - - -	10,265	20th July 1844	{ Henry Bewley. George Owen.
Covering the tops of bottles, jars, and other vessels	10,408	28th Nov. 1844	Narcisse Leroy.
Stoppering and covering bottles, jars, pots, and other similar vessels - - - - -	10,449	30th Dec. 1844	{ William Betts. Alexander Southwood Stockner.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BOTTLES, VESSELS, &amp;c.—continued.</b>			
Closing vessels for containing liquids and substances	10,696	3rd June 1845	Moses Poole.
Covering or stoppering the tops of bottles, jars, pots, and other similar vessels [ <i>depositing metal around, upon, and over the upper surfaces of bottles and corks, by the application of the electrotype process</i> ].	10,881	16th Oct. 1845	Benjamin West.
Stopping bottles and other vessels - - -	10,930	6th Nov. 1845	Robert Burton Cooper.
Covering, stopping, or securing liquids and other matters in bottles and other vessels.	11,003	12th Dec. 1845	Moses Poole.
Manufacture of fabrics which may, if required, be made airproof and waterproof; parts of the materials employed, when combined with other matters, being intended to produce coverings for vessels of capacity.	11,055	20th Jan. 1846	William Henry Burke.
Stoppering or covering bottles and other similar vessels.	11,228	28th May 1846	Alexander Southwood Stocker.
Closing the orifices of bottles or other vessels -	11,229	28th May 1846	John Blyth.
Securing corks in bottles, jars, and other vessels to contain liquids and other matters.	11,362	31st Aug. 1846	Henry Frederick West.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of covers for bottles</i> ]	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Manufacture of capsules; application of designs to certain surfaces - - - - -	11,981	30th Nov. 1847	{ William Betts. George William Jacob.
Mode of, and machinery for, stopping bottles - -	12,019	11th Jan. 1848	{ Alfred Augustus de Reginald Hely. John Emmett Norton.
Closing spirit and other cans or vessels - - -	12,247	21st Aug. 1848	William Young.
Covers for vessels holding oil and other fluids -	12,305	2nd Nov. 1848	Richard Bright.
Securing corks or stoppers in bottles or other vessels	12,330	18th Nov. 1848	Thomas Masters.
Manufacture of capsules; material to be employed therein, and for other purposes.	12,415	13th Jan. 1849	William Betts.
Machinery or apparatus for washing, cleansing, and corking bottles and other vessels.	13,074	8th May 1850	John Youil.
Improvements applicable to the manufacture of stoppers and other like articles of utility [ <i>and covers for bottles, by connecting together cords of india-rubber vellum</i> ].	13,109	8th June 1850	William Newton.
Rolling and laminating metals; manufacture of metallic cases and coverings [ <i>of Bett's patent metal</i> ] - - - - -	13,561	20th March 1851	{ Alexander Robertson. James Glover.
Stoppering of bottles, jars, pots, or other similar receptacles.	13,832	25th Nov. 1851	Alexander Southwood Stocker.
Improvements applicable to vessels for holding solid matters, and also as a fastening for utensils and apparatus [ <i>stoppering or closing bottles</i> ].	13,857	11th Dec. 1851	Thomas Masters.
Stoppers for bottles and jars - - - - -	14,059	15th April 1852	François Joseph Beltzung.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, RECTIFYING, AND PREPARATORY PROCESSES.</b>			
<b>I.—Malt drying, preparing, &amp;c.</b>			
Making kilns for drying malt and hops with sea-coal, turf, or other fuel without touching smoke; capable also of being used for cooking, drying, and starching at one time, with one fire, and thereby lessening the consumption of wood and straw.	85	23rd July 1635	Nicholas Halse.
Kilns for drying malt, grain, and hops - - -	102	7th Feb. 1637	Thomas Earl of Berks.
Drying malt on iron or tinned iron, with half the usual consumption of fuel and with a saving of time - - - - -	358	28th Nov. 1698	{ John Groves. Thomas Reeve.
Engine for drying malt and hops - - - -	394	1st Dec. 1713	Michael Bird.
Kiln for drying malt with hot air - - - -	429	10th May 1720	John Busby.
Making the steam of boiling liquors useful for drying malt and hops - - - - -	430	25th June 1720	{ John Theophilus Desaguliers. Daniel Niblet. William Vreem.
Drying malt - - - - -	513	7th Aug. 1729	John Allen.
Bringing malt liquor to much greater perfection, by means of floors of brass, copper, and lead, for curing and preparing malt.	594	17th Nov. 1743	John Southgate.
Kiln for drying malt - - - - -	612	18th April 1745	{ John Kay. Joseph Stell.
Machine for dressing and cleansing malt - -	896	14th March 1768	{ Andrew Meikle. Robert Mackell.
Machine for drying malt with coal or other fuel without communicating any unpleasant taste or flavour to the malt.	918	21st Feb. 1769	Samuel Willday.
Malt and oat kiln of cast metal - - - -	1395	14th Nov. 1783	Richard Clarke.
Kiln for drying malt - - - - -	2116	9th June 1796	John Pepper.
Construction of malt-kilns so as to prevent damages from fire, and save fuel in the drying of malt.	2816	29th Jan. 1805	James Barrett.
Apparatus for drying malt or hops or any kind of grain.	3093	19th Dec. 1807	Samuel Salter.
Drying malt - - - - -	3509	26th Nov. 1811	James Adam.
Method of drying and preparing malt - - -	4112	28th March 1817	Daniel Wheeler.
Kiln for drying malt and other substances [ <i>by means of steam, aided by air</i> ] - - - - -	4133	10th June 1817	{ Thomas Whittle. George Eyton.
Drying and preparing malt - - - - -	4254	5th May 1818	William Bush.
Malt-kiln - - - - -	5816	9th July 1829	Thomas Salmon.
Drying malt - - - - -	6468	7th Sept. 1833	Richard Elze.
Drying and screening malt - - - - -	7420	24th Aug. 1837	{ Thomas Du Boulay. John Joseph Charles Sheridan.
Manufacture of malt - - - - -	9475	22nd Sept. 1842	Patrick Stead.
Machines for drying malt and other substances -	9648	1st March 1843	George Bell.
Drying malt and grain - - - - -	9736	25th May 1843	Alfred Poole.
Kilns for drying hops, malt, and other substances -	9787	10th June 1843	Samuel John Knight.
Drying malt - - - - -	10,459	11th Jan. 1845	George Bell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, &amp;c.—continued.</b>			
Manufacture of malted grain; machinery connected with the process of brewing.	12,439	23rd Jan. 1849	Richard Johnson.
Drying malt - - - - -	13,735	4th Sept. 1851	Benjamin Hallewell.
Machinery, apparatus, and processes for the preparation of grain and its conversion into liquors, whether malt, saccharine, vinous, alcoholic, or acetous.	14,119	8th May 1852	William Littell Tizard.
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<b>II.—Malt mashing and mixing; Extracting and cooling Worts.</b>			
Working and mashing malt and other articles in mash-tuns; the principle of which is applicable to many other purposes.	1611	12th June 1787	James Walker.
Apparatus for use in breweries for the purpose of cooling worts of all kinds - - - - -	1769	28th July 1790	{ Thomas Harris. John Long.
Machine for mashing malt and other grain, to be worked by steam, water, wind, horse, or other power.	1877	15th May 1792	William Whitmore.
Machine for mashing malt in brewing - - - -	1965	2nd Nov. 1793	Edward Biley.
Machine for mashing malt or other grain for brewing or distilling.	2136	9th Sept. 1796	Thomas Cooper.
Mashing and mixing malt and grain used for brewing and distilling, by means of machinery.	2170	9th March 1797	John Silvester.
Machine and mash-tun for mixing and mashing malt and grain or corn, for brewing or distilling.	2171	9th March 1797	Henry Goodwyn, junior.
Machine for mixing meal or other substances with fluids in order to extract more easily the spirit or essence of the malt or other substance to be acted upon.	2236	8th May 1798	William Jones.
Apparatus or refrigerator for cooling the worts or other fermented, fermentable, or other liquors, or dissolved animal or vegetable substances, used in the process of brewing, or other manufacture of a similar nature.	2495	2nd May 1801	Henry Tickell.
Extracting worts from malt, barley, and other grain or substances.	2740	12th Nov. 1803	Richard Younger.
Construction of a machine for mashing and mixing malt.	3036	21st April 1807	Abraham Matterface.
Mashing-machine - - - - -	3315	12th March 1810	Thomas Robinson.
Concentrating or reducing such parts of malt and hops as are requisite in making ale, beer, and porter.	3651	20th Feb. 1813	John Roberts.
Apparatus for cooling the worts, wash, &c., of brewers, vinegar-makers, and distillers.	3778	8th Feb. 1814	John Vallance.
Cooling, condensing, and ventilating worts, liquors, and other fluids or solid matters; apparatus for the purpose - - - - -	4331	15th Jan. 1819	{ Robert Salmon. William Warrell.
Cooler for worts and wash, "Anti-evaporating cooler," to regulate the temperature of worts or wash in fermentation.	4858	1st Nov. 1823	William Bundy.
Composition of malt and hops - - - - -	5091	10th Feb. 1825	George Augustus Lamb.
Apparatus for cooling wort or must previous to fermentation.	5368	23rd May 1826	Dominique Pierre Deurbroucq.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, &amp;c.—continued.</b>			
Preparing and cooling worts and wash from vegetable substances, for the production of spirits.	5526	18th July 1827	Robert More.
Mashing-apparatus . . . . .	7181	15th Sept. 1836	Charles Farina.
Obtaining fermentable matter from grain; manufacturing the same for various purposes.	7347	18th April 1837	Charles Farina.
Treating mangel-wurzel and making drinks and other preparations therefrom [ <i>preparing wort</i> ].	13,582	2nd April 1851	Thomas Huckvale.
Refrigerator to be used in brewing and other similar purposes.	14,015	8th March 1852	Peter Van Kempen.
Machinery, apparatus, and processes for the preparation of grain and its conversion into liquors, whether malt, saccharine, vinous, alcoholic, or acetous [ <i>a mashing machine</i> ].	14,119	8th May 1852	William Littell Tizard.
<b>III.—Brewing and fermenting.</b>			
1. ( <i>Malt Liquors.</i> )			
Extracting strong water from malt . . . . .	90	26th March 1636	Sir William Brouncker, Knt.
Making the steam of boiling liquors useful for brewing . . . . .	430	25th June 1720	{ William Vreem. Daniel Niblet. John Theophilus Desaguliers.
Expanding fluids and rarefying them into an elastic impelling force sufficient for the turning of engines; for raising water, and for other uses; also brewing and distilling by a new form of boiler, still, evaporating vessel, and other necessary things.	555	15th Nov. 1736	John Payne..
Brewing ale, beer, porter, and other malt liquors . . . . .	1641	4th March 1788	William Ker.
Utensils or methods to be employed in the essential parts of brewing good malt liquor, stronger and better-flavoured, with only the usual quantity of malt and hops; such as extracting the finer parts of the malt and hops, also conveying the worts from the mash-tun to the copper, and a means of cooling the tun if required.	1754	4th June 1790	John Long.
Apparatus for preserving and applying the essential oil of hops, and for heating water for brewing without the application of fire.	1826	12th Sept. 1791	Richard Hare.
Process of brewing, distilling, boiling, and evaporating, and of raising and condensing steam or vapour from aqueous, spirituous, saccharine, and saline fluids, which expedites the process, improves the quality, and saves time and fuel.	2212	1st Feb. 1798	Richard Shannon.
Process of fermentation; brewing utensils and pneumatic apparatus for the purpose . . . . .	2245	19th June 1798	{ Richard Shannon. Robert Burnett.
Apparatus to be used in fermenting liquors . . . . .	3017	7th March 1807	John Falconer Atlee.
Compounding Dantzic spruce or black beer . . . . .	3072	9th Sept. 1807	James Day.
Construction of tuns, coolers, vats, and backs used by brewers, distillers, and others.	3151	15th Nov. 1808	Jonathan Dickson.
Brewing . . . . .	3240	8th June 1809	John Frederick Archbold.
Brewing . . . . .	3263	26th Sept. 1809	Randolph Ischiffeli de Roche.
Brewing . . . . .	3318	22nd March 1810	Michael Shannon.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, &amp;c.—continued.</b>			
Portable apparatus for brewing beer and ale from malt.	3498	23rd Sept. 1811	James Needham.
Portable apparatus for brewing beer from malt and hops.	3575	9th June 1812	James Needham.
Brewing malt liquors - - - - -	3920	1st June 1815	John Kilby.
Process and apparatus for fermenting malt and other liquors.	5959	19th July 1830	Edward Riley.
Machinery used in brewing - - - - -	5974	5th Aug. 1830	Æneas Coffey.
Brewing - - - - -	6316	29th Sept. 1832	John Swan.
Valve and apparatus for close fermenting and cleansing porter, beer, and ale.	6623	7th June 1834	Edward Keele.
Making fermented liquors - - - - -	7328	21st March 1837	Moses Poole.
Brewing by use of a material not hitherto so used -	8018	26th March 1839	Henry Montague Grover.
Brewing - - - - -	8919	5th April 1841	Jonathan Beilby.
Apparatus for brewing - - - - -	8921	5th April 1841	William Littell Tizard.
Manufacture of ale, porter, and other fermented liquors - - - - -	10,641	29th April 1845	{ William Maugham. Archibald Dunlop, junior.
Manufacture of worts - - - - -	10,962	20th Nov. 1845	Nathaniel Chappell.
Manufacture of ale, porter, and other fermented liquors - - - - -	10,973	27th Nov. 1845	{ William Maugham. Archibald Dunlop, junior.
Brewing; application of the materials used therein to other manufacturing purposes.	11,586	20th Feb. 1847	Joseph Clinton Robertson.
Brewing - - - - -	12,344	29th Nov. 1848	{ John Lane. John Taylor.
Brewing; machinery connected with the process -	12,439	23rd Jan. 1849	Richard Johnson.
Brewing worts for ale, porter, and other liquors -	12,549	28th March 1849	James Lawrence.
Brewing - - - - -	12,672	3rd Dec. 1849	Conrad Montgomery.
Treating mangel-wurzel, and making drinks and other preparations therefrom [ <i>boiling and fermenting to produce drinks</i> ].	13,582	2nd April 1851	Thomas Huckvale.
Brewing and brewing-apparatus - - - - -	14,006	8th March 1852	Joshua Crockford.
Brewing-apparatus - - - - -	14,282	26th Aug. 1852	James Lawrence.
Brewing - - - - -	14,327	19th Oct. 1852	{ Joseph Palin. Robert William Seivier.
<b>2. (Wine, Cider, Perry, &amp;c.)</b>			
Mills for making cider and perry - - - - -	194	28th Jan. 1677	Leonard Bosville.
Preparing, improving, and meliorating cider, perry, and the juice or liquor of wildings, crabs, cherries, gooseberries, currants, and mulberries, by adding to them spirits of such juices, or other spirits, either with or without sweets or sugars.	231	6th Feb. 1684	Richard Haines.
Drawing low wines and spirits from turnips, carrots, and parsnips - - - - -	362	10th April 1699	{ Abraham Bayly. Isaac Bennett. Isaac Crabb. Arthur Evans. John Bayly.
Burning grapes - - - - -	4007	23rd March 1816	Abraham Rogers.
Valve and apparatus for close fermenting wine and all other saccharine and fermentable liquors.	6623	7th June 1834	Edward Keele.
Processes of saccharine, vinous, and acetous fermentation.	6675	6th Sept. 1834	John Joseph Charles Sheridan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, &amp;c.—continued.</b>			
Processes of saccharine, vinous, and acetous fermentation.	6783	9th March 1835	John Joseph Charles Sheridan.
Processes of saccharine, vinous, and acetous fermentation.	6932	17th Nov. 1835	John Joseph Charles Sheridan.
Processes of saccharine, vinous, and acetous fermentation.	7211	20th Oct. 1836	John Joseph Charles Sheridan.
Manufacturing cider and perry - - - -	8144	6th July 1839	{ Edmund John Jones. John Ham.
Manufacture of wine - - - - -	8348	21st Jan. 1840	William Stone.
Process of vinous fermentations [ <i>in close vessels</i> ] -	9512	8th Nov. 1842	Arthur Harvie.
Vinous fermentation; machinery connected with the process.	12,439	23rd Jan. 1849	Richard Johnson.
Mills and machinery for the manufacture of cider, and other similar purposes.	13,025	26th March 1850	James Preece.
<b>IV.—Cleansing and clarifying Malt and other Liquors.—Making Yeast.</b>			
Making yeast for purposes of fermentation - -	1625	30th Oct. 1787	Richard Tillyer Blunt.
Separating beer from the yeast; preserving yeast in any climate.	2091	22nd Feb. 1796	Felton Mathew.
Substitute for brewers' yeast - - - -	2715	21st June 1803	Peter Storok.
Manufacturing yeast - - - - -	3546	5th March 1812	Felton Mathew.
Making yeast - - - - -	4506	1st Nov. 1820	Henry Lewis Lobeck.
Improvements in fermented liquors and the various products obtained therefrom.	4889	15th Jan. 1824	Jean Le Grand.
Keeping or preserving beer, ale, and other fermented liquors [ <i>by injecting carbonic acid gas to supply the place of liquor drawn off</i> ].	5924	30th March 1830	William Aitkin.
Valve and apparatus for cleansing porter, beer, ale, wine, spirits, cyder, and all other saccharine and fermentable liquors.	6623	7th June 1834	Edward Keele.
Apparatus for diminishing the evaporation of vinous, alcoholic, acetous, and other volatile vapours, and preventing the absorption of noxious effluvia in vinous, spirituous, acetous, and other fluids, such as wines, spirits, malt liquors, cyder, perry, and vinegar.	7336	4th April 1837	William Wynn.
Preserving wine and other fermented liquids in bottles.	7574	24th Feb. 1838	Moses Poole.
Apparatus to be used in cleansing beer or other fermented liquors.	7658	31st May 1838	Peter Walker.
Clarifying and filtering beer, wine, and other liquids.	7829	11th Oct. 1838	Matthew Heath.
Manufacturing fermented and distilled liquors [ <i>improving the quality by passing a current of electricity through the liquor</i> ].	9917	27th Oct. 1843	Alonzo Grandison Hull.
Preparation and application of various farinaceous products; machinery used in manufacturing the same [ <i>manufacture of yeast from the fibrine of potatoes</i> ].	10,444	20th Dec. 1844	James Thompson.
Apparatus applicable to casks or vessels for preserving ale and other fermented liquors.	11,179	28th April 1846	Samuel Pickford.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, &amp;c.—continued.</b>			
Treating fermentable and other liquids so as to cause impurities or matters to be extracted or precipitated [ <i>submitting wines, beer, cider, and other liquids to the action of electric currents</i> ].	11,004	2nd March 1847	Andrew Crosse.
Treating malt liquors and other liquids or fluids; } machinery for effecting such treatment - - }	12,159	22nd May 1848	{ George Henry Bursill. James Paterson. John Matthews.
Preserving fermented and other liquids and matters in vessels.	12,227	29th July 1848	Richard Abbey.
Preserving animal and vegetable substances from decay [ <i>preserving malt liquor and wines</i> ].	12,350	21st Aug. 1848	John Bethell.
Making yeast or barm - - - - -	12,411	11th Jan. 1849	Miles Wrigley.
<b>V.—Distilling and manufacturing Spirituous Liquors.</b>			
Distilling strong waters - - - - -	81	25th March 1635	{ Sir Theodore De May- erne, Knt. Thomas Cademan.
Drawing double the quantity of aqua-vitæ from a given quantity of liquor; also extracting a larger quantity of strong water from malt than has hitherto been usual.	80	26th March 1636	Sir William Brouncker.
Preparing and fermenting wash from sugar, molasses, and grain, for distilling.	387	3rd Oct. 1711	John Nasmith.
Making the steam of boiling liquors useful for distilling - - - - -	430	25th June 1720	{ John Theophilus Desa- guliers. Daniel Niblett. William Vreem.
Engines and worms for making rum - - -	433	17th July 1721	William Harding.
Extracting spirit from blackberries equal to French brandy.	537	21st Aug. 1732	Isaac Rowe.
Distilling by a new form of boiler, still, evaporating vessel, and other necessary things.	555	15th Nov. 1736	John Payne.
Producing a spirit from British materials, to equal French brandy.	629	16th March 1748	Roger Pickering.
Machine or stove-engine for distilling liquors - -	1051	5th Aug. 1773	John Melvill.
Kilns and ovens for distilling and brewing purposes.	1310	1st Jan. 1782	Henry Seymour Conway.
Distilling and preparing spirits by steam - -	1492	27th July 1785	Sutton Thomas Wood.
Worm for distillation, with a reservoir at the top for receiving the steam raised from the still.	1617	1st Aug. 1787	Stephen Maxwell.
Stills - - - - -	1685	9th June 1789	Mary Howson.
Apparatus for use in distilleries, for the purpose of cooling worts of all kinds - - - }	1769	28th July 1790	{ Thomas Harris. John Long.
Process of distilling - - - - -	2212	1st Feb. 1798	Richard Shannon.
Still-head for use in the distilling of all sorts of liquors.	2269	17th Nov. 1798	William Pontifex.
Apparatus or refrigerator for cooling the fermented or fermentable or other liquors, or dissolved animal or vegetable substances, used in the process of distilling, or other manufactures of a similar nature.	2495	2nd May 1801	Henry Tickell.
Apparatus for and mode of distilling - - -	2639	2nd Aug. 1802	Charles Wyatt.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, &amp;c.—continued.</b>			
Distilling - - - - -	2781	3rd Aug. 1803	John Edwards.
Still or alembic, with a refrigeratory, worm or condenser, and a piston and rod, for distillers, brewers, and others using like machinery.	3071	8th Sept. 1807	Ralph Dodd.
Construction of tuns, coolers, vats, and backs used by brewers, distillers, and others.	3181	15th Nov. 1808	Jonathan Dickson.
Distilling brandy from wine - - - - -	3186	20th Dec. 1808	John Frederick Archbold.
Distilling - - - - -	3240	8th June 1809	John Frederick Archbold.
Distillation - - - - -	3209	1st Feb. 1810	Stedman Adams.
Apparatus applicable to processes of distillation -	3323	6th April 1810	John Stancilffe.
Apparatus for distilling spirits; also method of working the same.	3537	8th Feb. 1812	Jeremiah Steele.
Construction of copper stills and intermediate condensers.	3583	16th July 1812	John Sutherland.
Still and boilers to prevent accidents by fire, and to preserve spirits and other articles from waste in distilling and boiling.	3737	4th Sept. 1813	Frank Parkinson.
Construction of stills and other apparatus connected with distillation.	3878	28th Jan. 1815	James Miller.
Apparatus for distillation - - - - -	3965	5th Dec. 1815	Christoph Dohl.
Apparatus to be employed in the distillation of animal, vegetable, and mineral substances, and in various other processes.	4029	14th May 1816	Daniel Wilson.
Apparatus for distilling - - - - -	4140	15th July 1817	Henry Tritton.
Improvements on and addition to stills or the apparatus used for distilling; process of distilling.	4203	20th Jan. 1818	Joseph Corty.
Utensils used for distillation, evaporation, and condensation.	4279	14th July 1818	John Richter.
Method of diminishing loss in quality and quantity of ardent spirits and other fluids during the process of distillation and rectification.	4339	28th Jan. 1819	James Fox.
Apparatus for distillation [ <i>in vacuo</i> ] - - -	4376	24th May 1819	John Thomas Barry.
Distilling - - - - -	4386	26th June 1819	Edmund William Williams.
Process of distillation - - - - -	4606	9th Nov. 1821	Richard Wright.
Apparatus for distilling, boiling, and concentrating by evaporation, liquids and fluids.	4694	27th July 1822	Sir Anthony Herrier, Knt.
Conducting the process of distillation [ <i>producing rectified spirits at one operation</i> ].	4781	22nd April 1823	Robert Winter.
Apparatus for distilling and other similar purposes -	4805	19th June 1823	James Smith.
Machinery applicable to distillation - - -	4907	28th Feb. 1824	Richard Evans.
Process of and apparatus for distilling [ <i>brandy from potatoes.</i> ]	4928	20th March 1824	Jean Jacques Stainmarc.
Construction of apparatus for distilling spirituous liquors.	5167	14th May 1825	William Grimble.
Safe used in the distillation of ardent spirits - -	5173	14th May 1825	James Fox.
Process of and apparatus for distilling - - -	5197	28th June 1825	Jean Jacques Stainmarc.
Apparatus for and process of distillation - - -	5315	7th Jan. 1826	Richard Evans.
Apparatus partly applicable for distillation and other like purposes.	5327	7th Feb. 1826	Josias Christopher Gamble.
Distilling spirits and strong waters - - -	5341	4th March 1826	James Fraser.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, &amp;c.—continued.</b>			
Preparing and cooling worts or wash from vegetable substances for the production of spirits.	5526	18th July 1827	Robert More.
Rendering productive of spirits the refuse arising from distilling.	5527	18th July 1827	Robert More.
Apparatus for distilling - - - - -	5720	29th Nov. 1828	Edward Dakin Philp.
Distillation - - - - -	5721	4th Dec. 1828	Robert Stein.
Distillation - - - - -	5828	10th Aug. 1829	William Shand.
Distillation - - - - -	5837	21st Aug. 1829	William Shand.
Apparatus used for distilling - - - - -	5891	26th Jan. 1830	Robert Busk.
Apparatus used in distilling; also process of distilling.	5925	31st March 1830	Daniel Towers Shears.
Apparatus rendered applicable for distilling - -	6099	28th March 1831	Thomas Bramton.
Apparatus for distilling - - - - -	6101	31st March 1831	Andrew Ure.
Apparatus for separating a portion of the aqueous vapour from the vapour of alcohol, in distilling spirituous liquors.	6110	30th April 1831	Joshua Taylor Beale.
Apparatus for distilling, and for other purposes -	6112	18th May 1831	William Gutteridge.
Still or apparatus for distilling - - - - -	6127	29th June 1831	William Godfrey Kneller.
Manufacturing mangel-wurzel for producing various known articles of commerce [ <i>spirits</i> ].	6249	22nd March 1832	Peter Young.
Apparatus applicable to distillation - - - - -	6440	20th June 1833	William Newton.
Distillation - - - - -	6596	22nd April 1834	Joseph Shee.
Valve and apparatus for close fermenting spirits, cider, and all other saccharine and fermentable fluids.	6623	7th June 1834	Edward Keele.
Preparing spirituous liquors in the making of brandy.	6966	22nd Dec. 1835	John Thomas Betts.
Distillation and decoction - - - - -	6985	21st Jan. 1836	Robert Bowie.
Preparing spirituous liquors in the making of brandy.	7159	3rd Aug. 1836	John Thomas Betts.
Distilling spirits from wash and other articles -	7276	11th Jan. 1837	George Goodlet.
Preparing spirituous liquors in the making of brandy.	7310	25th Feb. 1837	John Thomas Betts.
Preparing spirituous liquors in the making of brandy.	7444	5th Oct. 1837	John Thomas Betts.
Manufacture of gin ("Betts' patent stomachic gin").	7577	24th Feb. 1838	John Thomas Betts.
Producing pure spirit from malt and all kinds of grain, and from vegetable substances of every description containing saccharine matter.	7679	12th June 1838	Archibald Richardson.
Preparing spirituous liquors in the making of brandy.	7726	10th July 1838	John Thomas Betts.
Manufacture of gin ("Betts' patent stomachic gin").	7817	21st Sept. 1838	John Thomas Betts.
Preparing spirituous liquors in the making of brandy.	7962	7th Feb. 1839	Thomas Robinson.
Preparing spirituous liquors in the making of brandy.	7967	11th Feb. 1839	John Thomas Betts.
Means employed in generating steam and elastic vapours or fluids; using these improvements in conjunction with distillation and other useful purposes.	8474	15th April 1840	Thomas Robinson Williams.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, &amp;c.—continued.</b>			
Form of apparatus for the distillation of spirits -	8787	14th Jan. 1841	Melcher Garner Todd.
Application of parts of pyro-hydro-pneumatic apparatus to distilling and other purposes.	9023	31st Jan. 1843	Charles Clark.
Apparatus for distilling - - - - -	10,053	14th Feb. 1844	Andrew Kurtz.
Distilling, and apparatus for the purpose - -	10,539	13th March 1845	Pierre Armand le Comte de Fontainemoreau.
Distilling from Indian corn and other grain - -	10,839	18th Sept. 1845	Henry Mandeville Meade.
Manufacture of brandy, gin, rum, and other British spirits and compounds.	10,866	16th Oct. 1845	William Betts.
Setting and fixing stills - - - - -	11,268	29th June 1846	Joseph Moreland.
Distillation - - - - -	11,310	23rd July 1846	François Henri Bickes.
Improvements applicable to the manufacture of products of distillation.	11,545	26th Jan. 1847	Richard Walker.
Distilling;—application of the materials used therein or suitable thereto to other manufacturing purposes.	11,586	20th Feb. 1847	Joseph Clinton Robertson.
Distilling - - - - -	11,713	22nd May 1847	John Aitken.
Apparatus for distilling - - - - -	11,862	9th Sept. 1847	{ John Blyth. Alfred Blyth. John M'Culloch.
Manufacture of spirits from grain or other saccharine matters; apparatus to be used therein - -}	11,998	15th Dec. 1847	{ William Maltby. Thomas Webb.
Distilling - - - - -	12,068	14th Feb. 1848	William Tottie.
Distilling - - - - -	12,872	3rd Dec. 1849	Conrad Montgomery.
Manufacture of rum - - - - -	13,199	31st July 1850	John Sheafe Gaskin.
Manufacture of rum;—partly applicable to evaporation generally.	13,562	24th March 1851	Matthew Herring.
Extracting the colouring properties of madder; rendering useful the water employed in such processes [obtaining a spirit from the water by distillation].	13,733	4th Sept. 1851	Dominique Julian.
Refrigerator to be used in distilling and other similar purposes.	14,015	8th March 1852	Peter Van Kempen.
Machinery, apparatus, and processes for the preparation of grain and its conversion into liquors, whether malt, saccharine, vinous, alcoholic, or acetous [mode of conducting the process of distillation].	14,119	8th May 1852	William Littell Tizard.
Processes and Machinery partly applicable to distillation [distilling products obtained from cotton-seeds].	14,336	2nd Nov. 1852	Joseph Walker.
<b>VI.—Distilling and making Vinegar.</b>			
Making vinegars of cider, perry, and buck or French wheat - - - - -	81	25th March 1636	{ Sir Theodore De Mayerne. Thomas Cademan.
Making a vegetable acid or vinegar from refuse malt-wash after distillation.	1527	31st Jan. 1786	James Bell.
Making vinegar - - - - -	8492	23rd Sept. 1811	Johannes Ambrosius Maas.
Retort for distilling acids - - - - -	4587	8th Sept. 1821	{ Bevington Gibbons. Charles Hunnings Wilkinson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, &amp;c.—continued.</b>			
Improvements in fermented liquors and the various products to be obtained therefrom [obtaining vinegar by introducing acid into worts].	4889	15th Jan. 1824	Jean Le Grand.
Manufacturing vinegar - - - - -	5012	7th Oct. 1824	John Ham.
Condensing, apparatus used with or applied to apparatus for making vinegar.	5326	4th Feb. 1826	Robert Rigg.
Manufacturing mangel-wurzel for producing various known articles of commerce [vinegar].	6176	6th Oct. 1831	Peter Young.
Manufacturing mangel-wurzel for producing various known articles of commerce [vinegar].	6249	22nd March 1832	Peter Young.
Manufacture of vinegar - - - - -	8582	1st Aug. 1840	Felix Troubat.
Manufacture of vinegar; apparatus employed therein - - - - -	8866	8th March 1841	{ John William Neale. { Jacques Edouard Duyck.
Distilling; application of the materials used therein or suitable thereto to other manufacturing purposes [manufacture of vinegar].	11,596	20th Feb. 1847	Joseph Clinton Robertson.
Improvements applicable to retorts for distilling pyroligneous acid.	12,178	6th June 1848	Richard Barnes.
Machinery, apparatus, and processes for the preparation of grain and its conversion into liquors, whether malt, saccharine, vinous, alcoholic, or acetous [manufacturing vinegar and acetic acid].	14,119	8th May 1852	William Littell Tizard.
<b>VII.—Rectifying.</b>			
Ingredient to rectify spirits distilled from malt, molasses, and other liquors.	504	4th Nov. 1728	William Stammers.
Cleansing and improving British spirits - - -	621	29th April 1747	William Mundee.
Cleansing and improving British spirits - - -	660	2nd Feb. 1751	Osmond Cooke.
Rectifying, refining, and preparing spirits by steam	1492	27th July 1785	Sutton Thomas Wood.
Rectifying - - - - -	2731	3rd Aug. 1803	John Edwards.
Process of purifying ardent spirits - - -	2745	21st Dec. 1803	Charles Wyatt.
Rectifying brandy distilled from wine - - -	3186	20th Dec. 1808	John Frederick Archbold.
Rectifying - - - - -	3240	8th June 1809	John Frederick Archbold.
Process for the purification of ardent spirits - -	3466	22nd July 1811	Claude Celestine Monnoyeur.
Apparatus for rectifying spirits, also method of working the same.	3537	8th Feb. 1812	Jeremiah Steele.
Rectifying - - - - -	4208	20th Jan. 1818	Joseph Corty.
Method of diminishing loss in the quantity and quality of ardent spirits and other fluids during the process of rectification.	4339	28th Jan. 1819	James Fox.
Rectifying spirits and strong waters - - -	5341	4th March 1826	James Fraser.
Rectifying spirits [by means of pulverized charcoal] -	5495	28th April 1827	John M'Curdy.
Apparatus for rectifying - - - - -	5720	29th Nov. 1828	Edward Dakin Philp.
Apparatus used for rectifying - - - - -	5891	26th Jan. 1830	Robert Busk.
Process of rectifying - - - - -	5925	31st March 1830	Daniel Towers Shears.
Apparatus for separating a portion of the aqueous vapour from the vapour of alcohol, in the process of rectifying spirituous liquors.	6110	30th April 1831	Joshua Taylor Beale.
Improvements applicable to the purposes of rectifying.	7276	11th Jan. 1837	George Goodlet.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, &amp;c.—continued.</b>			
Rectifying spirituous liquors in the making of brandy.	7962	7th Feb. 1839	Thomas Robinson.
Form of apparatus for the rectification of spirits -	8787	14th Jan. 1841	Melcher Garner Todd.
Rectifying; apparatus for the purpose - - -	10,559	13th March 1845	Pierre Armand le Comte de Fontainemoreau.
Purification of spirits for the use of brewing distillers and rectifiers.	10,923	4th Nov. 1845	Henry Blumberg.
Apparatus for rectifying - - - - -	11,862	9th Sept. 1847	{ John Blyth. Alfred Blyth. John M <sup>c</sup> Culloch.
Rectifying - - - - -	12,872	3rd Dec. 1849	Conrad Montgomery.
<b>VIII.—Boilers and Coppers for Brewing and Distilling.</b>			
Small copper boiler and wooden vessel for brewing and distilling liquors and spirits.	299	28th June 1692	John Tatham.
Boilers for brewing and distilling - - - -	555	15th Nov. 1736	John Payne.
Constructing and setting boilers for brewhouses and distilleries.	1056	17th Nov. 1773	Christopher Chrisel.
Constructing and adapting coppers, boilers, tubes, and other hollow bodies, for heating water and worts; rendering the same air-tight.	1455	17th Nov. 1784	Sutton Thomas Wood.
Machine to be used in all household purposes where boiling is required;—applicable also in the operations of boiling, washing, distilling, and evaporating in manufactories and in mills and works where the power of steam is employed; also in heating any liquids, sand, or substance, in all which operations a considerable saving in fuel will be thereby effected ("British boiler").	1590	3rd Feb. 1787	John Reinecke.
Constructing boilers for distillation and for other objects.	1673	6th Nov. 1788	James Rumsey.
Boilers for distilling - - - - -	1685	9th June 1789	Mary Howson.
Boiler for distilling, to preserve spirits and other articles from waste in distilling and boiling.	3737	4th Sept. 1813	Frank Parkinson.
Setting and fixing coppers, stills, and boilers -	11,268	29th June 1846	Joseph Moreland.
<b>IX.—Tanning, bottling, and drawing off Liquors.—Beer-engines and Fountains.</b>			
Waterwork instrument or a corrected crane for passing wine, oil, or other liquor from one vessel to another without sucking or forcing by the mouth.	59	20th July 1632	Thomas Grent.
Retaining, clarifying, preserving, and drawing off malt and other liquors.	2196	31st Oct. 1797	Joseph Bramah.
Apparatus for raising beer, ale, wine, spirits, oil, or other liquids from cellars or other low places to a more elevated situation.	2257	7th Aug. 1798	Thomas Staton.
Apparatus for raising beer, ale, spirituous liquors, &c., from the cellar to the bar or other part of the house; for the use of publicans, brewers, distillers, and others.	2281	17th Dec. 1798	William Hart.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, &amp;c.—continued.</b>			
Hydrostatic machine for drawing beer or other liquids out of a cellar or vault.	2369	1st Feb. 1800	Thomas Parkinson.
Invention whereby a requisite quantity of air would introduce itself into any vessel containing fluid, or a superabundant quantity of air therein discharge itself, so as to preserve the fluid in a constant state for use, notwithstanding a diminution of its quantity, and prevent its being flat or dead by an improper communication with the external air, or the bursting of the vessel by an expansion of its contents, as frequently experienced by persons conserving liquors, particularly when fermenting.	2656	6th Nov. 1802	Thomas Barnett.
Tunning ale and beer into casks; cleansing ales and beers.	3320	22nd March 1810	John Gregory.
Construction of a vessel used for the delivery of soda-water, and portable fountain used in the manufacture of mineral waters ("Regency portable Fountain").	3680	13th April 1813	Charles Plinth.
Pump or apparatus for drawing off soda-water and other liquids impregnated with air.	3805	27th April 1814	David Grant.
Apparatus for bottling wine, beer, and other liquids with increased economy and despatch [ <i>filling many bottles at one time by means of a series of syphon-pipes</i> ].	5095	19th Feb. 1825	Thomas Masterman.
Machinery for raising, drawing, or forcing beer, ale, and other liquids or fluids.	6647	17th July 1834	James Warne.
Drawing off beer and other liquors from casks or vessels.	7152	14th July 1836	Charles Phillips.
Filling bottles with gaseous liquids; retaining or emptying them.	7899	6th Dec. 1838	Miles Berry.
Beer, cider, and spirit engines - - - -	8216	11th Sept. 1839	Samuel Stocker.
Apparatus for filling and closing bottles - -	8421	7th March 1840	Hayward Tylor.
Manufacture of beer-engines - - - -	8511	13th May 1840	Henry Ernest.
Engines for drawing beer, cider, and other fluids -	8588	3rd Aug. 1840	George Edward Noone.
Funnels for conducting liquids into vessels - -	9708	20th April 1843	John M <sup>r</sup> Innes.
Apparatus for regulating the inclination of vessels, for drawing off liquids contained therein; means of drawing off liquids.	9740	25th May 1843	Sarah Beadon.
Introducing aerated liquids into vessels and retaining them therein.	10,148	18th April 1844	James Murdoch.
Engines for raising, forcing, and drawing beer, ale, or other liquids.	10,279	30th July 1844	Thomas Warne.
Machinery for lifting forcing, or conveying liquids into vessels for holding the same.	10,608	10th April 1845	Samuel Stocker.
Drawing off liquids impregnated with gases from vessels containing the same, and closing such vessels.	10,698	3rd June 1845	Moses Poole.
Metallic broacher - - - - -	10,967	20th Nov. 1845	John Depledge.
Filling bottles and other vessels - - - -	11,003	12th Dec. 1845	Moses Poole.
Apparatus for raising or forcing ale and other fermented liquors for draught.	11,179	28th April 1846	Samuel Pickford.
Apparatus employed when transmitting and drawing beer and ale.	11,206	13th May 1846	Christopher Vaux.
Bottling aerated and other liquids - - - -	11,223	26th May 1846	William Mayo.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BREWING, DISTILLING, &amp;c.—continued.</b>			
Apparatus used when pumping liquids, also bottling fluids.	11,471	1st Dec. 1846	William Mayo.
Storing and supplying beer, ale, and porter - -	11,583	8th Feb. 1847	Christopher Vaux.
Mode of and machinery for filling bottles and vessels - - - - - }	12,019	11th Jan. 1848	{ Alfred Augustus de Reginald Hely. Joseph Emmett Norton.
Apparatus for charging bottles and other vessels with gaseous fluid; also for drawing off fluids.	12,330	18th Nov. 1848	Thomas Masters.
Storing ale, porter, and other liquors - - -	12,549	28th March 1849	James Lawrence.
Apparatus for transferring liquids from one vessel to another, and for filling bottles and other vessels with liquids.	12,685	20th June 1849	Richard Archibald Brooman.
Beer-engines - - - - -	12,852	17th Nov. 1849	Samuel Stocker.
Machine or apparatus for washing, cleansing, filling, and corking bottles and other vessels.	13,074	8th May 1850	John Youil.
Apparatus for drawing off soda-water and other aerated liquors.	13,455	16th Jan. 1851	Charles Cowper.
Apparatus for drawing off aerated liquors, and machinery for filling vessels with aerated liquors.	13,798	3rd Nov. 1851	François Marie Lanoa.
Drawing off aerated and other liquids; charging vessels with gases and fluids;—applicable to vessels for holding solid matters.	13,857	11th Dec. 1851	Thomas Masters.
Apparatus for containing and drawing off liquids, and ornamenting such apparatus [ <i>ornamenting by the electro-galvanic process</i> ].	14,300	23rd Sept. 1852	François Mathieu.
<b>X.—Corkscrews.</b>			
Constructing and improving corkscrews - -	2061	24th Aug. 1795	Samuel Henshall.
Corkscrews - - - - -	2617	7th May 1802	Edward Thomason.
Extracting corks from wine and other bottles with steadiness, facility, and safety.	7761	3rd Aug. 1838	Thomas Lund.
Construction of corkscrews - - - - -	8139	2nd July 1839	Charles Osborne,
Corkscrews - - - - -	8224	26th Sept. 1839	Henry Needham Scrope Shrapnell.
Apparatus for extracting corks - - - - -	8883	8th Dec. 1843	Alexander Southwood Stocker.
Corkscrews - - - - -	10,176	7th May 1844	John Loach.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BRIDGES, ARCHES, VIADUCTS, AQUEDUCTS.</b>			
Constructing arches either in iron or wood - - -	1667	26th Aug. 1788	Thomas Paine.
Construction of arches - - - - -	2046	14th April 1795	Edmund Cartwright.
Making, uniting, and applying cast-iron blocks for keystones in the construction of arches.	2066	18th Sept. 1795	Rowland Burdon.
Building and constructing bridges and aqueducts ;— applicable to other purposes.	2109	24th May 1796	James Jordan.
Constructing bridges of plate-iron, wrought, cast, framed or put together, so as to form hollow bodies capable of being filled with earth or other materials to make them solid, or, not being filled, to have the semblance of solid bodies.	2165	7th Feb. 1797	John Nash.
Making and constructing bridges without the use of wood.	2410	10th June 1800	Samuel Wyatt.
Uniting, combining, and connecting the "Metallic" patent blocks" for the construction of arches - }	2635	23rd July 1802	{ Thomas Wilson. Rowland Burdon.
Constructing and erecting bridges - - - -	3055	26th June 1807	John Palmer.
Improvements applicable to constructing and removing bridges.	3064	28th July 1807	John Phillips.
Erecting and constructing bridges and railroads without arches or sterlings, whereby the danger of being washed away by floods is avoided.	3405	4th March 1811	Sarah Guppy.
Improvements applicable to the construction of bridges and the erection of heavy buildings on bad ground.	3429	2nd April 1811	Samuel Bentham.
Construction or formation of arches (" Moor's" modern architecture") - - - - }	3516	15th Jan. 1812	{ Jasper Augustus Kelly. Robert Vazie.
Method of constructing, laying down, and organizing the main and other pipes for conveyance of water for the supply of the metropolis and other cities, towns, and places where public waterworks are adopted, and applying the water so conveyed to a variety of other useful purposes [constructing aqueducts].	3611	31st Oct. 1812	Joseph Bramah.
Construction of a bridge by the formation and uniting of its component parts.	4137	10th July 1817	Samuel Brown.
Road or way for passing across rivers, creeks, and waters without stopping the navigation thereof, and likewise across ravines, fissures, cliffs, and chasms; constructing arches or apertures for the flowing of water through the same.	4163	26th Aug. 1817	John James Alexander Mac Carthy.
Making coffer-dams [plates of iron connected together by dovetailed grooved cramps].	4643	29th Jan. 1822	Peter Ewart.
Manufacture of chains (" Mathematical chains") [bars with connecting bolts, and used in the erection of bridges].	4686	4th July 1822	George Smart.
Constructing arches - - - - -	4710	27th Sept. 1822	James Frost.
Construction of bridges and works of a similar nature [connecting the stones, also making the coffer-dams].	4723	9th Nov. 1822	John Dowell Moxon.
Apparatus capable of being inclined in different degrees, adapted to the conveyance of persons and goods across rivers or ravines, for military and other objects;—applicable to purposes of recreation and exercise [a portable bridge].	4777	16th April 1823	Gerard Graulhie.
Method, machinery, or apparatus for conveying persons and goods across rivers, valleys, or other places.	5342	4th March 1826	Robert Midgley.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BRIDGES, ARCHES, &amp;c.—continued.</b>			
Construction of bridges of iron or other materials -	6187	31st Oct. 1831	James Macdonald.
Construction of bridges of iron or other materials;—applicable to other purposes.	6369	24th Jan. 1833	James Macdonald.
Construction of bridges and aqueducts;—partly applicable to other purposes - - - }	6438	20th June 1833	{ Joseph Gibbs. Augustus Applegarth.
Construction of arches and other parts of buildings;—applicable to other purposes.	6504	7th Nov. 1833	Henry Robinson Palmer.
Construction of suspension-chains for bridges, viaducts, and aqueducts, and other purposes, and construction of such bridges, viaducts, or aqueducts.	7120	17th June 1836	James Dredge.
Construction of bridges and viaducts - - -	7692	18th June 1838	John White.
Construction of bridges and viaducts;—applicable to other purposes.	7836	17th Oct. 1838	William Edward Newton.
Apparatus or machinery to be employed as centreings or supporters, in the construction of bridges and arches.	7845	3rd Nov. 1838	Joseph Fraser.
Construction of bridges and viaducts - - -	7975	21st Feb. 1839	William Nash.
Method or methods of constructing chains for suspension-bridges, also making the bars, links, and bolts thereof.	7999	12th March 1839	Job Cutler.
Constructing arches - - - -	9158	16th Nov. 1841	Henry Mortimer.
Improvements applicable to the formation of floating bridges and other erections.	9247	8th Feb. 1842	Adderley Willcocks Sleigh
Application of corrugated plates of metal to the formation of arches and bridges.	9332	26th April 1842	Henry Robinson Palmer.
Combining iron and other materials for constructing bridges and arches and other similar structures.	10,803	5th Aug. 1845	Peter Francis Maire.
Rolling iron bars for suspension-bridges and other purposes.	10,855	6th Oct. 1845	Thomas Howard.
Apparatus applicable to swivel-bridges - - -	10,954	18th Nov. 1845	Edward Brown Wilson.
Constructing suspension-bridges and viaducts -	10,983	6th Dec. 1845	Henry Heathcote Russell
Construction and mode of opening and closing moveable bridges or arches, for carrying railways, tramways or other ways, across canals, docks, or other open cuttings - - - }	11,136	23rd March 1846	{ John Haskins Gandell. John Brunton.
Formation of bridges and similar works; apparatus employed therein.	11,292	14th July 1846	George Knight.
Construction of iron beams for the erection of bridges and other structures.	11,401	8th Oct. 1846	William Fairbairn.
Bridges, viaducts, aqueducts, and other similar erections.	11,437	3rd Nov. 1846	Gaetan Bonelli.
Bridges - - - - -	11,501	21st Dec. 1846	Richard Boyse Osborne.
Apparatus and machinery for raising, lifting, and otherwise moving heavy bodies [and construction of wooden bridges].	11,509	23rd Dec. 1846	Pierre Frederic Gougy.
Construction of bridges - - - - -	11,650	8th April 1847	Stephen Moulton.
Constructing bridges, aqueducts, and similar structures.	11,788	7th July 1847	John Harvey Sadler.
Construction of bridges and aqueducts - - -	12,242	15th Aug. 1848	{ James Warren. Willoughby Theobald Monzani.
Improvements applicable to the construction of viaducts, aqueducts, and culverts.	12,260	4th Sept. 1848	George Nasmyth.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BRIDGES, ARCHES, &amp;c.—continued.</b>			
Bridges - - - - -	12,286	12th Oct. 1848	Charles De Bergue.
Girders for bridges and other structures - -	12,360	9th Dec. 1848	John Gardner.
Supporting pressure and resisting strain [ <i>in bridge building</i> ]	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Construction of bridges [ <i>wholly or in part constructed of metal</i> ].	13,500	10th Feb. 1851	Richard Stuart Norris.
Construction of bridges;—partly applicable to other purposes.	13,653	3rd June 1851	William Bridges Adams.
Application of iron to building purposes [ <i>rolled wrought-iron beams for bridges and similar structures</i> ].	14,278	26th Aug. 1852	Charles Cowper.
Construction of bridges - - - - -	14,298	18th Sept. 1852	{ James Warren. Bernard Peard Walker.
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<b>BRUSHES.</b>			
Making hearth-brushes - - - - -	2738	31st Oct. 1803	Edward Thomason.
Making brushes from whalebone - - - - -	3177	3rd Nov. 1808	Samuel Crackles.
Method or process of manufacturing a material from the twigs or branches of broom, mallows, and rushes, and other shrubs or plants of the like species, to be used in the stead of flax or hemp, and for the same purposes for which flax and hemp are now used [ <i>used for making brooms and brushes</i> ].	3356	3rd July 1810	James Hall.
Construction of hearth-brushes and toasting-forks, or brush and toasting-fork combined.	3364	18th July 1810	Benjamin Ager Day.
Sweeping-machines or brushes - - - - -	3399	28th Feb. 1811	James Hume.
Tapered hair or head brush - - - - -	4065	30th Sept. 1816	Jacob Metcalf.
Circumvolution brush and hander [ <i>for sweeping paths, and mounted on a rotary axle for the purpose of collecting leaves as it revolves</i> ].	5275	1st Nov. 1825	William Ranyard.
Shaving-brushes and other brushes, applicable to other purposes [ <i>with a receptacle in the handle for soap, which may be supplied to the brush by a sliding piston, as wanted</i> ].	5476	22nd March 1827	James Woodman.
Manufacture of brushes; also the manufacture of a material and its application to manufacturing brushes and for other purposes [ <i>stock-brushes for plasterers, having a bandage of zinc to prevent splashing</i> ].	5493	23th April 1827	William Lockyer.
Manufacturing brushes; manufacture and application of materials to the manufacture of brushes and to other purposes [ <i>arranging and cementing the bristles</i> ].	5579	4th Dec. 1827	Joseph Robinson.
Manufacture of painting-brushes and other brushes applicable to various purposes.	6019	20th Oct. 1830	Timothy Mason.
Clothes-brushes and other brushes - - - - -	7546	20th Jan. 1838	Frederick Oldfield Ward.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BRUSHES—continued.</b>			
Constructing and mounting various kinds of brushes and brooms.	8878	8th Jan. 1841	William Thompson.
Construction of brushes - - - - -	9228	15th Jan. 1842	James Cole.
Brushes - - - - -	9301	21st March 1842	William Hancock.
Manufacture of brushes - - - - -	9461	8th Sept. 1842	James Insole.
Improvements partly applicable to brushes for water-colour drawing.	9531	3rd Dec. 1842	Edward Cobbold.
Manufacture of certain articles in which bristles have been or are used [ <i>making brushes from the horny parts of feathers, quills, or pens</i> ] - - -	9561	21st Dec. 1842	{ Edward Robert Rigby. Charles John Rigby.
Brushes - - - - -	9611	26th Jan. 1843	George Phillips Bayly.
Manufacturing certain materials as substitutes for whalebone; machinery for effecting the same [ <i>rolled or twisted strips of metal used in flexible stems of brushes</i> ].	9851	24th July 1843	Joseph Daniel Davidge.
Manufacture of brooms, brushes, or other similar articles.	10,422	7th Dec. 1844	Thomas Metcalfe.
Manufacture of brushes and brooms; machinery for preparing materials for such purpose.	10,884	16th Oct. 1845	John Barsham.
Manufacturing brooms and brushes - - -	11,459	21st Nov. 1846	James Barsham.
Brushes - - - - -	13,574	24th March 1851	Thomas Hawkins.
Apparatus for improving and restoring human hair [ <i>applying a galvanic current to combs and brushes</i> ].	14,077	20th April 1852	Robert Griffiths.
Machinery or apparatus applicable to the purposes of brushing and cleaning [ <i>brushes; brushing boots</i> ].	14,268	19th Aug. 1852	Charles Butler Clough.
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<b>BUILDING MATERIALS.—BURNING LIME.</b>			
<b>I.—Bricks, Tiles, and Chimney-pots.</b>			
Making an engine for the purpose of making mullions and transoms for windows, crests for houses, tiles, and paving-stones.	11	12th Jan. 1619	John Etherington.
Making and burning bricks, tiles, and other things, with peat or turf prepared for the purpose.	51	13th Aug. 1630	Edward Ball.
Building-mould or stone press, useful in the building of churches and great houses, for the formation of stone windows, door-cases, chimney-pieces, &c., without hewing, cutting, sawing, or engraving, and for the formation of bricks and tiles, smooth on one side, and worked as if carved.	59	20th July 1632	Thomas Grent.
Making and drying bricks and tiles and other earthy commodities, with sea coals - - -	78	17th Feb. 1635	{ David Ramsey. Michael Arnold. John Ayliffe.
Making kilns for burning bricks and tiles - - -	83	25th June 1635	Captain Thorneasse Francke.
Making pantiles or Flanders tiles - - -	92	25th April 1636	William Westby.
Making and burning bricks and tiles - - -	110	6th Nov. 1637	John Evans.
Burning tiles with sea coals - - -	113	6th April 1638	{ William Watkins. Rowland Baugh.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING MATERIALS, &amp;c.—continued.</b>			
Making tiles in the same way as practised in Holland	191	27th Oct. 1676	John Ariens Van Hamme.
Tiles or bricks for the floors of kilns for drying malt or other grain.	361	10th March 1699	John Shallcross.
Burning bricks and tiles - - - -	440	30th March 1722	Thomas Miller.
Engine for making bricks and pantiles - -	575	9th May 1741	William Bailey.
Making pantiles and plain or flat tiles - -	1114	13th Jan. 1776	John Sowler.
Making pantiles and plain or flat tiles to equal Dutch grey tiles.	1147	28th Feb. 1777	Robert Turner.
Burning bricks and tiles - - - -	1808	17th May 1791	James Parker.
Formation of bricks or other building materials -	2046	11th April 1795	Edmund Cartwright.
Mixture of chalk, whiting or lime, with clay, loam, or earth, for making and colouring bricks.	2154	23rd Jan. 1797	John Lee.
Incombustible substitute for certain building materials, to render dwelling-houses and other buildings secure from fire [tiles].	2194	11th Oct. 1797	Edmund Cartwright.
Making bricks and tiles; machinery for the purpose.	2215	20th Feb. 1798	Francis Farquharson.
Machine for making or moulding bricks - -	2216	20th Feb. 1798	James Douglass.
Manufacturing bricks and tiles, and discharging the mould used therein.	2368	20th Jan. 1800	Isaac Sandford.
Making bricks - - - -	2464	16th Jan. 1801	{ John Stevens. Thomas Angel White.
Machine and process for manufacturing materials for securing walls and roofs of houses from lateral pressure and inclemency of weather.	2543	13th Oct. 1801	Samuel Miller.
Pantiles for covering houses and other buildings -	2673	9th Aug. 1805	William Wilkinson.
Measures and machinery to be used in making bricks and earthenware.	2986	6th Nov. 1806	Robert Vazie.
Machinery for making pieces of pottery used in the construction of chimneys.	3019	7th March 1807	Elizabeth Bell.
Making bricks and tiles - - - -	3103	26th Jan. 1808	William Stewart.
Substance capable of being converted into bricks, tiles, and other descriptions of pottery.	3269	29th Sept. 1809	John White.
Machine for making bricks and tiles - -	3319	22nd March 1810	Johann George Deyerlein.
Machinery for delivering bricks, tiles, ornaments, and other articles made in moulds, after the moulds are filled.	3473	7th Aug. 1811	Thomas Gilbert.
Constructing and connecting earthen building materials.	3649	20th Feb. 1813	Joseph Hamilton.
Applying air for manufacturing and domestic purposes, and employing therein improved fire-places and bricks [tubical brick].	3664	13th March 1813	Benford Deacon.
Machines for making bricks and tiles - -	3685	28th April 1813	Joseph Hamilton.
Making the scoria produced in smelting iron, into forms for use in place of bricks, quarries, tiles, slates or stone - - - -	3705	31st May 1813	{ John Mander. Aron Manby. Joseph Vernon.
Bricks or blocks adapted for the fronts of houses and other buildings, giving them the appearance of stone; brick or block applicable to a new method of bonding brickwork; blocks or slabs for paving floors and facing or lining walls, instead of ashlar, and which will resemble marble or stone, and may be applied to steps or stairs or other parts of buildings.	3863	15th Dec. 1814	John Francis Wyatt.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING MATERIALS, &amp;c.—continued.</b>			
Forming blocks with bricks and cement to resemble stone, for building.	4016	9th April 1816	William Atkinson.
Preparing materials for making pottery-ware, tiles, and bricks [ <i>machinery for separating the clay from stones, &amp;c.</i> ].	4406	2nd June 1820	John Hague.
Making bricks by machinery - - -	4482	21st June 1820	John Shaw.
Combination of machinery for making bricks and tiles.	4507	1st Nov. 1820	Lemuel Wellman Wright.
Apparatus used for making bricks; drying bricks by flues and steam.	5036	11th Nov. 1824	William Leathy.
Construction of clamps for burning rain-bricks -	5039	20th Nov. 1824	William Rhodes.
Making bricks, tiles, and other articles manufactured with brick-earth - - -	5086	1st Feb. 1825	{ Edward Lees. George Harrison.
Brick or substitute for brick, manufactured from a material not hitherto used in the making of bricks [ <i>grey-stone chalk cut into suitable forms and sizes</i> ].	5161	14th May 1825	Edward Elliss.
Machines for forming and moulding bricks, and other bodies made of clay or other plastic substances or materials from which building and other bricks are usually made.	5166	14th May 1825	Alexander Galloway.
Bricks, stones, or other materials for the better ventilation of houses.	5184	9th June 1825	John Burrridge.
Machinery for manufacturing bricks - - -	5246	23rd Aug. 1825	{ George Henry Lyne. Thomas Stainford.
Machinery for making bricks [ <i>a pug-mill for mixing the clay and moulds for forming the bricks</i> ] -	5353	27th April 1826	{ William Choice. Robert Gibson.
Composition suitable for moulding into bricks or blocks of any form, for building and for ornamental, architectural, and other purposes -	5496	5th May 1827	{ John Browne. William Duderidge Champion.
Preparing materials for and manufacturing bricks [ <i>mixing chalk with clay; press for moulding</i> ].	5681	11th Aug. 1828	William Mencke.
Constructing ceilings and partitions for dwelling-houses, warehouses, workshops, or other buildings, in order to render them more secure against fire [ <i>by making and using a fire-proof tile</i> ].	5811	4th July 1829	William North.
Tiles for covering houses and other buildings -	5820	25th July 1829	Francis Horatio Nelson Drake.
Machinery for making bricks - - -	5866	2nd Nov. 1829	John Cowderoy.
Manufacture of ornamental tiles, bricks and quarries, for floors, pavements, and for other purposes.	5890	26th Jan. 1830	Samuel Wright.
Machinery for making quarries, bricks, tiles and other articles, from clay or other suitable materials.	5917	6th March 1830	Ralph Stevenson.
Machinery for making bricks - - -	5937	8th May 1830	Henry Robert Salmon Devenoge.
Machinery to be used in the manufacture of bricks, tiles, or other articles to be made of clay or other plastic substance; partly applicable to other purposes.	5985	18th Aug. 1830	Samuel Roscoe Bakewell.
Making or forming bricks, tiles, and chimney-bars -	5998	13th Sept. 1830	James Chadley.
Manufacturing quarries applicable to kilns for drying wheat, malt, and other grain, and for various other purposes.	6035	11th Nov. 1830	Henry Pratt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING MATERIALS, &amp;c.—continued.</b>			
Machinery for and process used in the manufacture of tiles, bricks, and other articles formed of plastic materials;—applicable to other purposes - - -	6257	13th April 1832	{ John James Clark. John Nash. John Longbottom.
Manufacture of bricks - - - - -	6386	14th Feb. 1833	William Rhodes.
Combination of materials for the manufacture of fire-bricks.	6422	11th May 1833	Thomas Spinney.
Tiles for draining land - - - - -	6426	25th May 1833	Robert Beart.
Machinery for making articles out of brick and other the like earth.	6701	22nd Oct. 1834	Jean Baptiste Pleneys.
Apparatus for making bricks - - - - -	6738	23rd Dec. 1834	Robert Beart.
Machinery for moulding bricks, tiles, and other articles made of brick-earth.	6878	10th Aug. 1835	Edward Jones.
Tiles for covering roofs - - - - -	6881	17th Aug. 1835	Richard Sheppard.
Method of arranging and combining certain materials used in constructing houses, bridges, and other buildings, whereby superior strength and durability may be obtained.	6942	3rd Dec. 1835	Richard Witty.
Making tiles for draining, also house-tiles, flat roofing-tiles, and bricks.	7353	9th Dec. 1836	George Marquis of Tweeddale.
Machinery for making bricks, tiles, and other such articles.	7353	27th April 1837	Miles Berry.
Machinery for making bricks, tiles, and other articles made from earthy materials.	7391	17th June 1837	Richard Roe.
Earthenware tile, slab, or plate - - - - -	7438	14th Sept. 1837	{ Richard Davies. Robert Chrissop Wilson.
Preparing the materials for making bricks;—applicable to other purposes.	7434	21st Sept. 1837	Nevil Smart.
Manufacture of bricks - - - - -	7551	25th Jan. 1838	{ Francis Charles Parry. Charles De Laveleye.
Making tiles for draining, also house-tiles, flat roofing-tiles, and bricks.	7757	1st Aug. 1838	George Marquis of Tweeddale.
Manufacture of materials of which chimneys are formed.	7777	21st Aug. 1838	Samuel Stocker.
Forms of materials and substances used for building; their combination for such purpose [ <i>stone and wood blocks</i> ].	8135	27th June 1839	Richard Hodgson.
Machinery for moulding clay into the form of bricks and tiles; also for mixing and moulding other substances.	8267	12th Nov. 1839	James White.
Mortar or cement for building; also for mouldings, castings, statuary, tiles, pottery, imitation of soft and hard rocks, and for other useful purposes [ <i>fire-bricks</i> ].	8391	22nd Feb. 1840	Thomas Kerr.
Form and combination of blocks for buildings, and for other purposes.	8596	8th Aug. 1840	Thomas John Davis.
Manufacture of bricks and tiles - - - - -	8772	6th Jan. 1841	George Child.
Manufacture of bricks - - - - -	8897	22nd March 1841	{ Robert Cook. Andrew Cunningham.
Combination of materials for making bricks, tiles, and other articles; machinery for the process of burning the same; applicable to the burning of other descriptions of bricks, tiles, and pottery.	8945	29th April 1841	Joseph Gibbs.
Manufacture of bricks - - - - -	8956	11th May 1841	Andrew M'Nab.
Making or moulding tiles, bricks, retorts and similar articles, from clay and other plastic substances.	8965	22nd May 1841	John Ainslie.
Construction of bricks - - - - -	9108	30th Sept. 1841	Edward Welch.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING MATERIALS, &amp;c.—continued.</b>			
Manufacture of bricks and tiles - - -	9185	7th Dec. 1841	William Irving.
Manufacture of bricks - - - -	9243	31st Jan. 1842	James Hunt.
Making and moulding bricks and other substances	9244	31st Jan. 1842	Charles Wye Williams.
Tiles - - - - -	9376	2nd June 1842	James Reed.
Manufacture and application of bricks, tiles, and other plastic articles.	9521	17th Nov. 1842	Charles Smith.
An improved Tile - - - - -	9534	3rd Dec. 1842	John Sealy.
Manufacture of bricks, tiles, and other similar plastic substances.	9538	3rd Dec. 1842	Frederick William Etheredge.
Apparatus for manufacturing bricks, tiles and other articles, from clay and earthy materials.	9510	26th Jan. 1843	Joseph Kirby.
Manufacture of bricks and tiles - - -	9859	8th March 1843	{ William Betts. William Taylor.
Manufacture of bricks for use in the construction of chimneys and flues.	9711	25th April 1843	James Moon.
Machinery for making bricks and tiles - -	9751	1st June 1843	Thomas Forsyth.
Manufacture of ornamental tiles - - -	9766	10th June 1843	{ Alfred Francis. Isaac Funge.
Drying bricks, tiles, retorts and similar articles, made from clay and other plastic substances.	9886	30th Sept. 1843	John Ainslie.
Manufacturing bricks, tiles, quarries, and other articles composed of brick-earth; burning and firing the same.	10,020	20th Jan. 1844	William Basford.
Manufacture of ornamental tiles, bricks, and quarries for floor-pavements and for other purposes.	10,022	23rd Jan. 1844	Samuel Wright.
Manufacture of tiles and bricks - - - -	10,132	30th March 1844	Henry Clayton.
Machinery for moulding clay and other plastic substances for draining and other purposes.	10,147	18th April 1844	John Bailey Denton.
Machinery for making and compressing bricks, tiles, square pavers, and ornamental bricks.	10,152	18th April 1844	William Hodson.
Manufacture of bricks, tiles, and other plastic substances.	10,188	15th May 1844	Henry Holmes.
Manufacture of tiles - - - - -	10,200	23d May 1844	Richard Wilson.
Manufacture of bricks, tiles, and other articles from plastic materials.	10,237	24th June 1844	William Worby.
Drain-tiles - - - - -	10,276	30th July 1844	William Ford.
Form of tiles for draining; implements for manufacturing the same; mode of manufacture -	10,299	29th Aug. 1844	{ James Smith. William Gairdner Jolly.
Manufacture of bricks and tiles for chimneys and flues and for other purposes - - -	10,311	12th Sept. 1844	{ Charles Wearg Clark. James Reed.
Apparatus and arrangements for the manufacture of tiles and similar articles from clay and other plastic matter.	10,481	18th Jan. 1845	John Ainslie.
Machinery for the manufacture of bricks, tiles, and other similar articles.	10,506	31st Jan. 1845	Thomas Middleton.
Manufacture of drain and other tiles - - -	10,577	27th March 1845	Richard Weller.
Manufacture of bricks and tiles - - - -	10,636	24th April 1845	Robert Beart.
Machinery for making, moulding, or manufacturing bricks, tiles, and other articles from earthy or plastic materials.	10,845	2nd Oct. 1845	Alfred Hall.
Manufacture of chimney-pots - - - - -	10,915	3rd Nov. 1845	George Ewart.
Improvements, compositions, and combinations of certain materials applicable to the manufacture of tiles, and for other purposes - - -	10,968	20th Nov. 1845	{ George Skinner. George Whalley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING MATERIALS, &amp;c.—continued,</b>			
Manufacture of glass tiles - - -	11,023	30th Dec. 1845	John Russell.
Machines for manufacture of tiles and other plastic substances [ <i>drain-tiles and ridge-tiles</i> ].	11,041	15th Jan. 1846	William Benson.
Apparatus for the manufacture of bricks; arrangements for the manufacture of bricks, tiles and similar articles, from clay and other plastic substances.	11,155	31st March 1846	John Ainslie.
Manufacture of bricks, tiles, chimney-tops, and other similar articles.	11,236	2nd June 1846	William Carter Stafford Percy.
Bricks, tiles, quarries, and slabs - - -	11,249	22nd June 1846	Spencer Thomas Garrett.
Machine for making bricks, tiles, and quarries -	11,276	30th June 1846	James Hastings.
Manufacture of bricks, tiles, and other articles composed of plastic materials; preparation of plastic materials for the purpose - - -	11,282	6th July 1846	{ Frederick Ransome. John Crabb Blair Warren.
Machines for the manufacture of bricks and other plastic products.	11,365	3rd Sept. 1846	Peter Armand le Comte de Fontainemoreau.
Manufacture of bricks, tiles, and other like articles	11,374	17th Sept. 1846	Henry Franklin.
Machinery for the manufacture of bricks and tiles -	11,408	8th Oct. 1846	James Farnsworth.
Chimney-pots - - - - -	11,440	5th Nov. 1846	Robert Teagle.
Tiles used in construction of furnaces - - -	11,562	8th Feb. 1847	George Grundy.
Machinery for making and dressing bricks and tiles; sheds and kilns in which bricks and tiles are dried and burnt.	11,682	29th April 1847	William Carter Stafford Percy.
Preserving and preparing bricks, tiles, and other substances.	11,739	10th June 1847	Henry Cox.
Combination of materials for building purposes; application of certain materials for building purposes [ <i>preparation of asphalt</i> ].	11,922	22nd Oct. 1847	William Kirrage.
Manufacture of drain-tiles and other articles from plastic materials.	11,972	18th Nov. 1847	Thomas Martin.
Manufacture of ornamental tiles, bricks, and quarries.	12,103	22nd March 1848	Joseph Orsi.
Bricks - - - - -	12,197	30th June 1848	Joseph Skertchley.
Kilns for burning bricks, tiles, and other earthen substances.	12,213	18th July 1848	William Swain.
Machinery for manufacturing bricks and tiles;—in part applicable to moulding other substances.	12,311	2nd Nov. 1848	James Hart.
Machinery for moulding and pressing artificial bricks.	12,454	6th Feb. 1849	Thomas Snowdon.
Machinery for manufacturing bricks and tiles from } clay or other plastic materials - - - }	12,601	3rd May 1849	{ Thomas Whaley. Richard Ashton Lightoller.
Manufacture of tiles, bricks, and other articles from plastic materials; machinery employed therein.	12,645	7th June 1849	Bennett Alfred Burton.
Pug-mills - - - - -	12,698	7th July 1849	Richard Garrett.
Preparing clay; manufacture of bricks, tiles, and other articles of clay or brick-earth.	12,831	2nd Nov. 1849	William Morris.
Manufacture of bricks and tiles - - - - -	12,884	10th Dec. 1849	Thomas Grimsley.
Manufacture of bricks and tiles - - - - -	12,896	15th Dec. 1849	Henry Roberts.
Machinery for manufacturing bricks, tiles and other similar articles, from clay or other plastic materials.	12,914	3rd Jan. 1850	Henry Dorning.
Fire-places and flues, and apparatus connected therewith [ <i>new form of brick</i> ].	13,022	23rd March 1850	Edward Welch.
Manufacture of bricks, tiles, and other articles from plastic materials.	13,064	27th April 1850	William Gilbert Elliott.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING MATERIALS, &amp;c. —continued.</b>			
Construction and manufacture of furnaces and the materials to be used for the same; such furnaces and materials being applicable to the treatment of metals and metallic compounds, and to other purposes of a like nature [ <i>compounds for making fire-bricks</i> ].	13,118	11th June 1850	Alexander Parkes.
Manufacture of bricks and tiles - - - - -	13,275	10th Oct. 1850	Robert Beart.
Chimney-pots and regulators - - - - -	13,312	2nd Nov. 1850	John Slate.
Manufacture of bricks - - - - -	13,369	30th Nov. 1850	Henry Jules Borie.
Arrangements and apparatus for the manufacture of bricks, tiles, and other articles made from clay and other plastic substances;—partly applicable to the treatment and preparation of earths, minerals, and animal and vegetable matters.	13,376	30th Nov. 1850	John Ainslie.
Manufacture of bricks, tiles, and other articles made from plastic materials; making parts of the machinery used therein.	13,559	17th March 1851	James Hart.
Machinery to be employed in the manufacture of tiles, bricks, and other articles from disintegrated or pulverized clay - - - - -	13,608	26th April 1851	{ James Nasmyth. Herbert Minton.
Adaptation and manufacture of materials for the construction of dwelling-houses and other buildings.	13,638	22nd May 1851	George Tate.
Manufacture of bricks, tiles, and other articles made of like materials [ <i>rendering the same impervious to water</i> ].	13,703	31st July 1851	John Workman.
Manufacture of bricks - - - - -	13,737	4th Sept. 1851	William Imray.
Machinery for manufacturing bricks, tiles, quarries, and such other articles that may be made from clay or other plastic substances.	13,769	9th Oct. 1851	Joseph Pimlott Oates.
Manufacture of chimney-pots and hollow vessels; also bricks, tiles, and other articles.	13,788	23rd Oct. 1851	Henry Adcock.
Making bricks and tiles or quarries; constructing ovens or kilns for burning or firing the same.	13,803	4th Nov. 1851	Robert Besurck.
Machinery for manufacturing bricks and other articles from clay, alone, or mixed with other materials.	13,839	1st Dec. 1851	Thomas Burstall.
Treatment, manufacture, and application of materials or substances for building purposes [ <i>making bricks, slabs, blocks, or tiles from combinations of broken stones, mineral earths, sawdust, and coal, papier mâché, gutta-percha, and other articles</i> ].	13,850	8th Dec. 1851	William Pidding.
Manufacture of tiles and other articles made from plastic materials.	13,864	19th Dec. 1851	Henry Clayton.
Manufacture of bricks and other articles made of plastic materials; cutting, shaping, and dressing the same; machinery used therein.	13,890	8th Jan. 1852	Charles Dixon Archibald.
Manufacture, preparation, and combination of materials or substances for production of fuel and for other purposes to which natural coal can be applied [ <i>by moulding, after carbonization and pulverizing, a combination of coke with charcoal, coal, or powdered coke, to be used as building materials</i> ].	13,911	24th Jan. 1852	William Pidding.
Machinery for manufacturing bricks, tiles, and other articles of a similar character - - - - -	13,918	24th Jan. 1852	{ Arad Woodworth. Samuel Mower.
Machinery for manufacturing bricks, tiles, quarries, and such other articles as may be made of clay or other plastic substances.	14,054	6th April 1852	Joseph Pimlott Oates.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING MATERIALS, &amp;c.—continued.</b>			
Preparing for baking and burning masses of clay; baking and burning the same as thoroughly as a common brick is burned [ <i>perforating clay while in the mould, for more effectually baking and burning</i> ].	14,212	6th July 1852	Frederick Gesswein.
Baking bricks, tiles, and other kinds of pottery or earthenware.	14,218	13th July 1852	James Baron Palm.
Machinery for manufacturing bricks and tiles	14,234	20th July 1852	James M'Henry.
<b>II.—Cements, Compositions, burning Lime, &amp;c.</b>			
Making and burning lime and other things, with peat or turf prepared for the purpose.	51	13th Aug. 1630	Edward Ball.
Making kilns for burning lime - - - -	83	25th June 1635	Captain Thornesse Francke.
Burning limestone, chalk, and other materials -	110	6th Nov. 1637	John Evans.
Plaster of an extraordinary hardness, called "Glas-sis," which may be used instead of freestone, for paving floors as also water-mills for corn.	103	12th Jan. 1677	Kenrick Edisbury.
Converting stone and chalk into lime, so that by the heat thereof water and other liquids may be heated or boiled.	314	31st Jan. 1693	John Green.
Burning lime - - - - -	440	30th March 1722	Thomas Miller.
Invention of a lime, stucco, plaster, mortar and cement, from cockle, oyster, and other sea-shells.	604	22nd June 1744	Charles Neville.
Making tarrass used in brick and stone work for building bridges and wharfs.	654	13th March 1750	Isaac Dent.
Making tarrass - - - - -	802	7th Dec. 1763	Thomas Manlove.
Composition or stone-paste, made with oils and other things, for covering walls, roofs, and domes, and for other purposes.	834	27th July 1765	Reverend David Wark.
Composition or cement, called "Pietra-cotta" -	841	6th March 1766	Dennis M'Carthy.
Cement for building purposes - - - - -	1040	3rd April 1773	John Liardet.
Composition for covering the fronts and tops of houses and buildings, and for ornamenting the same, and for other purposes.	1150	29th March 1777	John Johnson.
Water-cement or stucco for building, repairing, or plastering walls, and for other purposes.	1207	8th Jan. 1779	Bryan Higgins.
Egyptian mastic, a cement for building purposes, impervious to water and a preservative from fire; or, when moulded, may be used as ornaments to buildings, and in a dissolved state will also receive artistic impressions, which become hard in a few hours without the aid of fire, and form a stone equal in appearance to marble.	1225	26th May 1779	Isaac Narbell.
Mortar or stucco for the use and purposes of build-ings.	1272	11th Dec. 1780	Richard Williams.
Kiln or oven for burning lime - - - - -	1510	1st Jan. 1782	Henry Seymour Conway.
Compound for covering houses, and for other pur-poses.	1573	11th Nov. 1786	Dennis M'Carthy.
Calcining chalk, earth, stone or limestone, with a certain material not before used for the purpose.	1808	17th May 1791	James Parker.
Cement or tarrass to be used in aquatic and other buildings and stucco-work.	2120	28th June 1796	James Parker.
Cement for various purposes - - - - -	2425	16th July 1800	John Baptist Denize.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING MATERIALS, &amp;c.—continued.</b>			
Burning chalk, marble and limestone, into lime -	3527	20th July 1801	Charles Earl Stanhope.
Waterproof composition to imitate Portland stone, for stuccoing and washing new and old stone and brick buildings, and for cementing the joints and tucking.	2707	28th May 1803	Thomas Fulcher.
Compositions; mode of making the same for covering and facing houses, and for other purposes.	2998	22nd Dec. 1806	Ambrose Bowden Johns.
Building of a peculiar construction, for the purpose of burning coke and lime, whereby the superfluous heat of the fire used in burning the coke is applied to burn the lime, and also whereby such fire may be rendered perpetual.	3205	13th Feb. 1809	James Grellier.
Erecting lime-kilns whereby a very considerable saving is made in fuel, and the lime most perfectly burnt in a short time.	3234	9th May 1809	Nugent Booker.
Making artificial stone for various purposes - -	3357	3rd July 1810	John Kent.
Compositions for making waterproof cement, mortar, and stucco; applicable as a colouring wash.	3367	2nd Aug. 1810	Edgar Dobbs.
Cement and size for plastering and stuccoing walls, setting and whitening ceilings, running and whitening cornices, and colours, to be laid on the stucco in oils and distemper, the whole for finishing the interior of houses.	3424	26th March 1811	Samuel Kerrod.
Making a mastic cement or composition ("Dihl's mastic").	3872	6th Jan. 1815	Christopher Dihl.
Cement for preserving the interior and exterior of houses, ships, and other things.	4012	23rd March 1816	William Haddock.
Forming blocks with bricks and cement, in the form of Ashlar stone, for building.	4016	9th April 1816	William Atkinson.
Making mastic cement or composition; working and applying the same to use ("Dihl's mastic").	4033	25th May 1816	Christopher Dihl.
Making a cement or composition for ornaments and statues, for making and cementing artificial bricks, tiles, and stones, and for erecting, covering, and decorating buildings; mixing, working, and moulding the same upon any sort of materials, or working and moulding entire erections and substances therewith.	4144	19th July 1817	Peter Hamelin.
Making lime - - - -	4262	19th May 1818	Maurice St. Leger.
Application of known materials or cements for covering houses, and for any other purpose in which mastic or cement may be applied.	4305	10th Nov. 1818	Moses Poole.
Cement to be used in aquatic and other buildings; stucco-work produced by the use and application of a mineral substance.	4454	9th May 1820	John Ambrose Tickell.
Manufacture of building cement, composition, stucco, or plaster, by the application and combination of materials not hitherto used for the purpose [ <i>burnt earths and metallic matters ground</i> ].	4527	15th Jan. 1821	Abraham Henry Chambers.
Cement or artificial stone - - - -	4679	11th June 1822	James Frost.
Obtaining and preparing calcareous and other substances for forming cements.	4772	3rd April 1823	James Frost.
Composition for covering houses and other buildings [ <i>made from pure limestone calcined in a blast-furnace</i> ].	4803	17th June 1823	Richard Pew.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING MATERIALS, &amp;c.—continued.</b>			
Producing an artificial stone or cement [ <i>Portland cement</i> ].	5022	21st Oct. 1824	Joseph Apadin.
Constructing and erecting furnaces and kilns for making lime and coke by the same heat in one building.	5034	11th Nov. 1824	Charles Heathorn.
Making lime [ <i>cement or artificial stone from scrapings of roads</i> ].	5180	7th June 1825	Joseph Apadin.
Cement for building and other purposes [ <i>a compound of marble, flint, chalk, lime, and water, called "Vitruvian"</i> ].	5307	7th Dec. 1825	John Phillips Beavan.
Composition or substance which may be manufactured or moulded into bricks or blocks for building, or moulded and made applicable to ornamental, architectural, and other purposes.	5496	5th May 1827	John Browne.
Cement, mastic, or composition ("German cement").	5651	6th May 1828	Matthew Fullwood.
Preparing materials for and producing a cement applicable to building and other purposes ("Metallic cement").	6303	8th Sept. 1832	Nicholas Troughton.
Cement or composition ("Ranger's artificial stone").	6341	4th Dec. 1832	William Ranger.
Cement or combination of materials, applicable to the purposes for which cement, stone, brick, and other similar substances may be used.	6596	19th April 1834	John Henry Cassell.
Combining various materials to form stuccoes, plasters, or cements, and for manufacture of artificial stones, marbles, and other like substances used in buildings.	6688	8th Oct. 1834	Richard Freen Martin.
Preparing and combining materials whereby the moulding or forming of blocks, casts, walls, or other aggregates in those said materials may be considerably expedited ("Ranger's artificial stone").	6729	4th Dec. 1834	William Ranger.
Manufacture of plaster of Paris - - -	7156	27th July 1836	Peter Spence.
Mastic cement, applicable to paving, road-making, covering buildings, and to various other purposes.	7489	25th Nov. 1837	Richard Tappin Claridge.
Manufacture of cement; application of cement and other earthy substances for producing ornamental surfaces - - -	7580	27th Feb. 1838	{ John Danforth Greenwood. Richard Wynne Keene.
Composition applicable to building purposes; apparatus for making the same.	7626	25th April 1838	Alexandre Happey.
Mortar or cement for building, also for mouldings, castings, statuary, tiles, pottery, imitation of soft and hard rocks, and for other useful purposes.	8391	22nd Feb. 1840	Thomas Kerr.
Manufacture of cement - - -	8528	2nd June 1840	Richard Freen Martin.
Manufacture of lime and cements or composition -	8607	27th Aug. 1840	Charles Smith.
Manufacture of cement, stucco, and other similar compositions.	8773	6th Jan. 1841	John Swindells.
Manufacturing lime, cement, and such other compositions, applicable for working under water and in constructing buildings exposed to damp.	8914	3rd April 1841	William Edward Newton.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING MATERIALS, &amp;c.—continued.</b>			
Material or compound for preventing damp rising in walls; freeing walls from damp;—application to other purposes.	9089	20th Sept. 1841	William Charlton Forster.
Combining materials to be used for cementing purposes and for preventing the passage of fluids; forming or constructing articles from such compositions of materials [ <i>may be used as a cement for joining stone, wood, and metals, or for luting purposes</i> ].	9487	8th Oct. 1842	Charles Edward Deutsche.
Cements and compositions to be used with bricks, tiles, and other plastic articles, for building and for other purposes.	9521	17th Nov. 1842	Charles Smith.
Obtaining or manufacturing lime from a substance } or substances not hitherto used for the purpose - }	9721	4th May 1843	{ Francis Daniell. Thomas Hutchinson.
Mastic or cement; may be also employed as artificial stone, and for coating metals and other substances.	9847	20th July 1843	Charles Bertram.
Plastic composition applicable to the fine arts and to useful and ornamental purposes [ <i>for cement</i> ].	9900	5th Oct. 1843	Margaret Henrietta Marshall.
Preparing materials for architectural purposes -	10,344	10th Oct. 1844	Joseph Eugène Chabert.
Plastic manufacture or composition, part of which is applicable to decorative and useful purposes, and part as a fireproof cement or plastic - - }	10,489	21st Jan. 1845	{ William Yates. Denis Dolan.
Preparation and application of mastics and cements.	10,550	11th March 1845	Richard Archibald Brooman.
Manufacture of cements and other plastic compositions; machinery used in the process.	10,863	9th Oct. 1845	Edward Patrick Emerson.
Manufacturing cement - - - - -	11,079	11th Feb. 1846	John Keating.
Manufacture of plaster of Paris - - - - -	11,125	11th March 1846	Parfait Grout.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>manufacturing cements or compositions</i> ].	11,149	25th March 1846	Charles Smith.
Cements - - - - -	11,249	22nd June 1846	Spencer Thomas Garrett.
Capsules or small cases for protecting matters enclosed therein from the air; materials used in the manufacture of the same [ <i>applicable as a cement</i> ].	11,937	2nd Nov. 1847	James Murdoch.
Manufacture of cement - - - - -	12,103	22nd March 1848	Joseph Orsi.
Preserving chalk and plaster from decay - -	12,250	21st Aug. 1848	John Bethell.
Making cements when oxyde of zinc is used - -	12,498	28th Feb. 1849	Charles André Felix Rochaz.
Treatment of a substance produced in soap-making, and its application to useful purposes [ <i>obtaining carbonate of lime or whiting, from soapers' waste</i> ].	13,051	20th April 1850	Alfred George Anderson.
Mortar and cements; modes of manufacturing the same.	13,071	7th May 1850	Joseph Gibbs.
Melting, moulding, and casting sand, earth, and argillaceous substances, for building and other purposes.	13,173	10th July 1850	Jacob Connop.
Lime and other kilns - - - - -	13,305	2nd Nov. 1850	Joseph Christian Davidson.
Manufacture of cement - - - - -	13,335	12th Nov. 1850	Peter Spence.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING MATERIALS, &amp;c.—continued.</b>			
Treatment, manufacture, and application of materials or substances for building purposes.	13,850	8th Dec. 1851	William Pidding.
Preparing compositions to be used in railways and other structures, in substitution of iron, wood, and stone [ <i>applicable as a cement for paving purposes</i> ].	13,941	31st Jan. 1852	Owen Williams.
Plastic composition applicable to manufacturing purposes [ <i>compound of Roman cement and gutta-percha</i> ].	14,207	6th July 1852	Alfred Henry Gaullie.
Construction of kilns for burning or calcining } cement, chalk, limestone, and other substances - }	14,337	23rd Oct. 1852	{ James Lamb. Joseph Menday.
Manufacture of Portland stone, cement, and other compositions, for general building purposes and hydraulic works.	14,339	2nd Nov. 1852	Patrick M'Anaspie.
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<b>BUILDING AND RELATIVE PROCESSES.</b>			
<b>I.—Laying Foundations; erecting Structures.</b>			
Erecting mills on barges or lighters in the river Thames.	13	28th Jan. 1619	Samuel Cotton.
Engine for expediting buildings, and for other uses.	48	31st July. 1629	Captain Thornesse Francke.
Making platforms, terraces, and rooms of buildings, so that fire or water will not injure them.	63	25th May 1633	Dekins Bull.
Securing buildings from fire - - - -	1037	1st April 1772	David Hartley.
Securing buildings from fire - - - -	1294	15th Oct. 1779	John Johnson.
Machinery for facilitating repairs, and for other purposes.	1548	22nd June 1786	John Page.
New method to resist or sustain the weight or pressure of solids and fluids in any lateral or anti-vertical direction [ <i>application of arches in various building processes</i> ].	1793	24th Feb. 1791	Isaac Ashton.
Improvements in the building and constructing of various public and private buildings, and which may also be applied to other purposes.	2109	24th May 1796	James Jordan.
Architecture of houses or other buildings - -	2130	20th July 1796	Henry Walker.
Making and constructing warehouses and other buildings, without the use of wood.	2410	10th June 1800	Samuel Wyatt.
Machine and process for manufacturing materials for securing walls and roofs of houses from lateral pressure and the inclemency of the weather.	2543	13th Oct. 1801	Samuel Miller.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Method of constructing and removing offices, counting-houses and other rooms, with desks, drawing-boards, and other conveniences;—applicable to constructing and removing bridges, cottages, sentry-boxes, and other erections, whether of a large or small extent.	3064	28th July 1807	John Phillips.
Construction and arrangement of buildings so as to afford security against fire.	3201	7th Feb. 1809	William Congreve.
Constructing buildings to save expense, labour, and time, and to secure the buildings from dry-rot.	3224	3rd April 1809	John Thomas Groves.
Construction of houses and other buildings, whereby expense will be reduced and the buildings rendered more secure from fire.	3245	20th June 1809	Charles Norton.
Laying foundations of works of stone, brick, or other artificially-composed materials.	3429	2nd April 1811	Samuel Bentham.
Construction or formation of buildings ("Moore's modern architecture") - - - - -	3516	20th Jan. 1812	{ Jasper Augustus Kelly. Robert Vazie.
Securing buildings from fire - - - - -	3606	31st Oct. 1812	William Congreve Col'.
Casting or constructing foundations, piers, walls, ceilings, arches, columns, pilasters, mouldings and other enrichments to buildings.	4710	27th Sept. 1822	James Frost.
Economical method of combining machinery used in the manufacture of lace, in weaving and in spinning by power [ <i>constructing spinning and weaving mills, and arranging the iron pillars, cross-bars, and braces used in such constructions, so as to form parts of the looms and other machinery</i> ].	4919	9th March 1824	John Heathcoat.
Rendering buildings less liable to destruction or injury by fire [ <i>using cast-iron joists</i> ].	5097	19th Feb. 1825	Benjamin Farrow.
Building or constructing houses and other buildings.	5198	28th June 1825	David Redmund.
Construction of warehouses, sheds, and other buildings intended for the protection of property [ <i>using corrugated plates of metal</i> ].	5786	28th April 1829	Henry Robinson Palmer.
Method of arranging and combining certain materials used in constructing houses, bridges, and other buildings, whereby superior strength and durability will be obtained [ <i>lamellar beams and segmental trusses</i> ].	6942	3rd Dec. 1835	Richard Witty.
Architecture as regards its construction, or in the description or properties of the forms and combinations and of the superficial figures which may be employed; the application of these improvements, being also for supplying forms, figures, or patterns in various arts or manufactures; protecting from decay the interior and exterior surfaces of buildings, and giving them a more finished appearance.	7516	19th Dec. 1837	John Robertson, junior.
Erecting buildings - - - - -	7698	22nd June 1838	Thomas Joyce.
Architecture in all its forms and combinations, also the superficial figures which may be employed; surfaces of buildings.	7739	18th July 1838	John Robertson.
Constructing fireproof buildings - - - - -	8563	9th July 1840	Louis Leconte.
Machinery to be used in constructing buildings -	9174	9th Dec. 1841	Henry Wilkinson.
Constructing houses and such-like buildings -	9669	16th March 1843	William Laycock.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Preparing in metals or other substances the parts and features of architectural construction and decoration; applying the same in the construction of houses and other buildings.	10,175	7th May 1844	William Vose Pickett.
Construction of buildings generally - - -	10,397	21st Nov. 1844	{ Francis Higginson. Edward Robert Coles.
Construction of buildings - - - - -	11,049	20th Jan. 1846	William Malins.
Gratings of metal or wood for the fronts of houses, and general purposes, for the admission of light and for ventilation - - - - -	11,230	28th May 1846	{ Richard Marvin. William Henry Moore.
Construction of houses, buildings, and other erections.	11,257	22nd June 1846	Joseph George.
Constructing the interior parts of warehouses and other depôts, to facilitate the delivery of the contents thereof.	11,782	3rd July 1847	John Ray.
Architecture, elementary method of formation employed in the same, also applicable for harmonizing formation, as of urns or vases.	11,949	9th Nov. 1847	John Robertson.
Construction and arrangement of certain parts of buildings.	12,363	9th Dec. 1848	John Tutton.
Brickwork - - - - -	13,162	3rd July 1850	John Coope Haddan.
Apparatus for admission of light and air into carriages and buildings; also for the exclusion of light and air from the same.	13,624	7th May 1851	Thomas Robert Mellish.
Construction of dwelling-houses and other buildings; adaptation and manufacture of materials for such uses.	13,638	22nd May 1851	George Tate.
Construction of buildings;—partly applicable to other purposes [using glass bricks].	13,653	3rd June 1851	William Bridges Adams.
Modes of construction applicable to architectural purposes.	13,614	15th Nov. 1851	Charles Ewing.
Application of iron to building purposes - -	14,278	26th Aug. 1852	Charles Cowper.
<b>II.—Tents and Marquees.</b>			
Fixing tents and marquees - - - - -	2266	10th Nov. 1798	{ Edward Shorter. William Anthony.
Making and constructing tents, poles and other machinery, so as to expel and carry off noxious and contaminated air by a more effectual ventilation than by the tents in common use.	2018	7th March 1807	John Maberly.
<b>III.—Scaffolding and Ladders.</b>			
Making ladders in different pieces, capable of being immediately put together by means of socket joints.	3370	10th Aug. 1810	Thomas Collins.
Ladders - - - - -	4264	19th May 1818	Thomas Motley.
Machine or apparatus to be used as a moveable platform for repairing the interior and exterior of buildings.	8687	5th Nov. 1840	Alexander Horatio Simpson.
Machinery applicable to assist servants in cleaning windows, and as a substitute for scaffolding.	8967	22nd May 1841	John Winterborn.
Scaffolding or framework for building purposes -	9180	16th Dec. 1841	William Buckwell.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Scaffold, or mode of scaffolding - - -	10,412	2nd Dec. 1844	{ James Winter, senior. James Winter, junior. William Lane.
<b>IV.—Walls.</b>			
Construction of walls - - -	2046	14th April 1795	Edmund Cartwright.
Wall for building purposes - - -	5616	21st Feb. 1828	Caleb Hitch.
Building the walls of houses and other edifices -	8218	16th Sept. 1839	Stephen Rogers.
Founding and constructing walls;—in part applicable to other structures.	12,199	3rd July 1848	Nathaniel Beardmore.
Constructing and fencing walls - - -	12,464	8th Feb. 1849	John Taylor.
Forming or covering doors or other surfaces [ <i>also partition walls with metallic plates bolted together, having a space between them filled with bituminous compounds</i> ].	13,765	9th Oct. 1851	Sir John Scott Lillie, Knt.
<b>V.—Decorating and covering Buildings.</b>			
Ornamenting buildings - - -	1065	14th Feb. 1774	Joseph Jacob.
Ornamenting the interior of houses with foil stones, Bristol stones, paste, glass, and all sorts of pinched glass, sapped glass, and every other stone, glass, and composition used or applicable to the jewellery trade.	1552	5th Aug. 1786	John Skidmore.
Decorating walls of apartments in imitation of fine cloth, by means of cementing flock - - }	2956	1st Aug. 1806	{ Thomas Fricker. Richard Clarke.
Ornamenting wainscot or plaster walls or partitions	3593	6th Aug. 1812	{ Thomas Hubbard. William Robert Wale King.
Casing or facing brick and other buildings with stone.	3706	5th June 1813	Charles Wyatt.
Facing of exterior and interior walls of Gothic or other structures with slates, secured by mouldings, grooves, and ties of cast iron, so as to have (when sanded) the appearance of finely-wrought stonework, in ornamented panels or otherwise, with ceilings of corresponding tracery, form, and character, of the same material, which may be supported by pointed arches rising from single or clustered columns of cast iron or otherwise; capping buttresses in Gothic architecture with highly enriched pinnacles or finials of cast iron only, which, being connected by metal with the spouts (also of metal), and carried down to the ground, form conductors for the protection of lofty buildings from the effects of lightning.	3761	29th Nov. 1813	John Cragg.
Application of known materials or cements to the covering of houses, or to any other purposes to which mastic or cement may be applied.	4305	10th Nov. 1818	Moses Poole.
Finishing ornamental walls and other ornamental surfaces.	6930	14th Nov. 1835	Nicholas Troughton.
Protecting from decay the interior and exterior surfaces of building, and giving them a more finished appearance.	7516	19th Dec. 1837	John Robertson.
Surfaces of buildings - - -	7739	18th July 1838	John Robertson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Lining walls of houses - - - - -	9871	22nd Aug. 1843	John Collard Drake.
Facing, figuring, designating, decorating, planning, and otherwise fitting up, houses and other buildings.	12,075	28th Feb. 1848	Elizabeth Wallace.
Manufacture of picture-frames and other articles in dies or moulds; also producing ornamental surfaces [ <i>producing veined or marbled surfaces on walls by combining coloured fibrous matters with cement.</i> ]	12,587	26th April 1849	Charles Iles.
Manufacture of coverings for walls and partitions; preparation of materials for such purpose; also machinery to be employed in such manufactures.	13,550	10th March 1851	Jean Baptiste Alphonse Brunet.
Method of treating ornamenting, or preserving buildings and edifices;—also applicable to other similar purposes.	13,892	17th July 1851	Thomas Saunders Bale.
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<b>VI.—Chimneys, Flues, and Guards.</b>			
Chimneys - - - - -	2358	23rd Nov. 1799	James Burns.
Constructing chimneys so as to lessen inconvenience from fire and smoke.	2702	10th May 1803	Elizabeth Bell.
Flue for heating ovens, &c., uniformly - -	2823	12th Feb. 1805	Charles Coe.
Chimney safe-guard, for the preservation of houses and buildings, from fire, robbery, and foul air.	2833	26th March 1805	Stuart Arnold.
Chimneys - - - - -	2963	30th Aug. 1806	John Carey.
Construction of chimneys for distilling - -	3878	28th Jan. 1815	James Miller.
Constructing chimneys - - - - -	4073	1st Nov. 1816	Joseph Gregson.
Chimney-caps and application thereof - -	4511	7th Nov. 1820	John Winter.
Flues connected with grates, stoves, and furnaces, whereby they are rendered more safe, and the smoke prevented from returning into the rooms.	4744	26th Dec. 1822	George Richards.
Flue or chimney for furnaces and other purposes -	5007	7th Oct. 1824	Humphry Jeffreys.
Chimney or flue for domestic and other purposes -	5284	8th Nov. 1825	John William Hiort.
Arrangement of flues to communicate with various parts of culinary-apparatus, such as steam, soup, and water boilers, ovens, hot plates, hot closets, and stewing-stoves, to render them more compact.	5762	27th Jan. 1829	James Fraser.
Improvement applicable to building or erecting flues of chimneys.	5998	13th Sept. 1830	James Chadley.
Chimneys for dwelling houses and other houses and buildings [ <i>lining them with metallic tubes</i> ].	5998	14th Sept. 1830	Seth Smith.
Chimney for dwelling-houses - - - - -	7777	21st Aug. 1838	Samuel Stocker.
Construction of chimneys, flues, and air tubes, with the stoves and apparatus connected therewith, for preventing the escape of smoke into apartments, and for warming and ventilating buildings - }	9026	13th July 1841	{ William Henry Phillips. David Hickinbotham.
Apparatus to be applied to chimneys to prevent them taking fire, and to render sweeping unnecessary.	9426	23rd July 1842	Eugène de Varroc.
Construction of flues and chimneys - - - - -	9882	21st Sept. 1843	William Denley.
Construction of flues - - - - -	9885	28th Sept. 1843	Elisha Haydon Collier.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Constructing a self-supporting fireproof roof and other parts of buildings with bricks and tiles formed from an improved machine [ <i>chimney shafts</i> ].	10,179	14th May 1844	Thomas Grimsley.
Construction of chimney and flues - - -	10,269	24th July 1844	General George Wilson.
Constructing chimneys - - -	10,273	26th July 1844	James Kite.
Flues - - - - -	10,309	12th Sept. 1844	{ John Chanter. George Lodge.
Flues - - - - -	10,531	20th Feb. 1845	Samuel Hall.
Constructing the flues and interior arrangements of ovens and kilns used in the manufacture of china and earthenware - - -	10,687	24th May 1845	{ Jeremiah Simpson. Joshua Seddon.
Flues used in the construction of furnaces -	11,562	8th Feb. 1847	George Grundy.
Construction of the upper part of chimneys -	11,601	2nd March 1847	Samuel Hunton Townsend Bishop.
Construction and arrangement of flues - -	12,190	16th June 1848	George Emmott.
Flues; apparatus connected therewith - -	13,022	23rd March 1850	Edward Welch.
Flues - - - - -	14,030	22nd March 1852	{ William Lymington. Charles Finlayson. John Reid.
<b>VII.—Roofs, Roofing, Slating.—Beams and Girders.</b>			
Covering for houses, made of clay and resembling a flat board about fourteen inches long and twelve inches broad, with a rib on both sides, about half an inch in height; two of these boards being placed together, and the ribs fastened with a small hollow cap, each board folding about two inches over the other, form a close, tight, and safe covering, which will be also much lighter than those now used.	387	4th July 1701	John Shallcross.
Three engines for cutting sheet lead for water-pipes and for covering buildings.	579	9th Sept. 1741	James Creed.
Casting lead to be used for milling, for the covering of churches or other buildings.	651	13th Dec. 1749	Sir James Creed, Knt.
Covering buildings with slates laid in such a manner and with such materials that little or no repairs will be needed while the timbers remain good; the same will also resist the effects of wind or weather, will save expense, and not exceed one half the weight as in the common method of slating; the pitch of the roof not rising more than one quarter the breadth of the building will also reduce the measurement, and consequently the quantity used, by one-ninth part.	1018	22nd May 1772	Charles Rawlinson.
Composition to be used as a substitute for lead, slates, or tiles, in covering churches, houses, and all other buildings.	1185	16th March 1778	Henry Cooke.
Covering houses and other buildings with slate -	1285	9th March 1781	Richard Elliott.
Making and casting iron and other metal plates for covering houses and other buildings, such plates being superior to tiles, slate, or lead.	1392	25th Oct. 1783	Robert Ransome.
Constructing vaulted roofs either in iron or wood -	1667	26th Aug. 1788	Thomas Paine.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Preparing and laying slates for covering houses and other buildings; preparing slates for other purposes.	2498	2nd May 1801	Barker Chifney.
Manufacturing, preparing, and laying roofing-slates	2687	8th March 1803	Barker Chifney.
Roofing houses with a certain material not hitherto used for the purpose [zinc] - - - }	2849	14th May 1805	{ Charles Hobson. Charles Sylvester. John Moorhouse.
Fire-proof roofings for houses, mills, and warehouses.	3141	3rd June 1808	Ralph Dodd.
Constructing an iron or metal roof for houses or other buildings.	3246	26th July 1809	Thomas Botfield.
Covering cast-iron roofs with slate - - -	3277	21st Nov. 1809	John Cragg.
Constructing iron-work for certain parts of buildings.	3508	30th Oct. 1811	Thomas Pearsall.
Constructing the coverings of the roofs, or of other surfaces of buildings, external or internal.	3750	13th Nov. 1813	Richard Jones Tomlinson.
Method of framing the roofs of buildings or the parts thereof.	3883	9th Feb. 1815	Richard Jones Tomlinson.
Making roofs of houses and of various other buildings.	4277	11th July 1818	William Bailey.
Rafter for roofs, or beam for other purposes [bars of iron].	4558	3rd May 1821	Richard Jones Tomlinson.
Construction of roofs - - - - -	4676	4th June 1822	William Huxham.
Composition of certain metals for roofing houses or any other purpose for which the same is applicable [tin and zinc].	4773	8th April 1823	Christopher Pope.
Covering for the roofs of houses and other buildings [plates of iron].	5552	11th Oct. 1827	Elias Carter.
Rafters - - - - -	6007	6th Oct. 1830	{ Joseph Harrison. Richard Gill Curtis.
Improvements applicable to the construction of roofs and other useful purposes.	6187	31st Oct. 1831	James Macdonald.
Roofing or covering of houses or other buildings or places.	6373	29th Jan. 1833	William North.
Construction of roofs and other parts of buildings; —applicable to other purposes.	6504	7th Nov. 1833	Henry Robinson Palmer.
Plates or tiles of zinc or other proper metal or mixture of metals; applicable to roofs or other parts of buildings.	7367	8th May. 1837	Peter Steinkeller.
Covering buildings - - - - -	7530	4th Jan. 1838	John Richardson.
Construction of roofs, truss-girders, and stays -	7836	17th Oct. 1838	William Edward Newton.
Laying covering composed of lead or other metal, on the roof of houses or other buildings, with drains whereby the water is carried off and rolls and seams rendered unnecessary.	7936	12th Jan 1839	Edwin Marten.
Construction of roofs and other parts of buildings -	7975	21st Feb. 1839	William Nash.
Manufacture of flexible fibrous substances or compositions, applicable to covering buildings and other useful purposes; machinery used therein [waste flax or tow and plasterers' hair from tan-yards.]	8230	28th Sept. 1839	Thomas Robinson Williams.
Roofing - - - - -	8371	31st Jan. 1840	William Cubitt.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Forming a fabric applicable to various uses, by combining caoutchouc or certain compounds thereof, with wood, whalebone, or other fibrous materials manufactured for that purpose, or with metallic substances, manufactured or prepared [for covering roofs].	8382	8th Feb. 1840	James Hancock.
Roofing and slating houses and other buildings -	8585	1st Aug. 1840	James Taaffe.
Material or compound for preventing damp rising in walls, freeing walls from damp; application to other purposes [to the copings of buildings].	9089	20th Sept. 1841	William Charlton Forster.
Covering surfaces with wood [combining small pieces of thin planks for roofing houses].	9231	22nd Jan. 1842	Antoine Mertens.
Preparing surfaces of fabrics to be used in covering } roofs and other surfaces - - - }	9331	26th April 1842	{ Raoul Armand Joseph Jean Comte de la Chatre. Richard Tappin Claridge. Richard Hodgson.
Construction of roofs and other parts of buildings; application of corrugated plates of metal to certain purposes for which they have not heretofore been used.	9332	26th April 1842	Henry Robinson Palmer.
Slating; construction of water-tight joints; covering and casing buildings and other erections.	9376	2nd June 1842	James Reed.
Covering ridges and hips of the roofs of buildings -	9393	13th June 1842	Daniel Williams.
Constructing roofs - - - -	9585	12th Jan. 1843	William John Loat.
Treating fabrics of fibrous materials for covering roofs and for other useful purposes [by electro-deposition].	9693	11th April 1843	James Napier.
Manufacture of metallic roofs and joists - -	9816	6th July 1843	James Boydell, junior.
Portable roof, for agricultural and other purposes -	9827	7th July 1843	George Parsons.
Covering the ridges and hips of roofs of buildings, with slate and other materials.	9857	31st July 1843	William Davey.
Covering roofs and flats of buildings with slate -	9893	5th Oct. 1843	William North.
Constructing fireproof roofs - - - -	10,047	10th Feb. 1844	Henry Hawes Fox.
Combination of materials to be used as a substitute for canvas and other surfaces employed as grounds for painting, some of which combinations are applicable to other purposes [for covering walls, roofs, &c., in place of felt].	10,054	14th Feb. 1844	Elijah Galloway.
Constructing a self-supporting fireproof roof and other parts of buildings, with bricks and tiles formed from an improved machine.	10,179	14th May 1844	Thomas Grimsley.
Construction of slated roofs and flats - -	10,182	22nd May 1844	Thomas Martin.
Covering roofs of houses and other buildings -	10,370	24th July 1844	William Brockedon.
Combination of materials suitable for roofing and most other purposes to which wood and iron are applicable.	10,327	26th Sept. 1844	Edwin Edward Cassell.
Covering roofs and flats with slates - - -	10,393	14th Nov. 1844	William North.
Manufacturing or preparing plates of iron or other metal for roofing and for other purposes.	10,399	23rd Nov. 1844	John Spencer.
Constructing roofs and other parts of buildings, of iron or other metal; preparation of the materials for constructing the same.	10,429	12th Dec. 1844	William Malins.
Construction of temporary roofs or coverings -	10,709	5th June 1845	Henry Carr.
Combining iron and other materials for constructing roofs and other similar purposes.	10,803	5th Aug. 1845	Peter Francis Mair.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Constructing roofs and other parts of buildings, of iron or other metal; preparation of materials for constructing the same.	10,953	18th Nov. 1845	William Malins.
Constructing the roofs of houses, buildings, sheds, and all other erections.	11,145	25th March 1846	Louis Serbat.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of roofing</i> ]	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Roofings - - - - -	11,501	21st Dec. 1846	Richard Boyes Osborne.
Trussing beams and girders - - - - -	11,860	9th Sept. 1847	William Gibbons.
Construction of iron beams or girders - - - - -	11,950	9th Nov. 1847	Henry Fielder.
Iron girders, beams, trusses, or supports - - - - -	12,091	8th March 1848	John Henderson Porter.
Construction of roofings - - - - -	12,243	15th Aug. 1848	{ James Warren. Willoughby Theobald Monzani.
Roofing conservatories, hothouses, and other like structures.	12,355	26th Aug. 1848	Edward Dench.
Construction of fireproof roofings - - - - -	12,380	4th Sept. 1848	George Nasmyth.
Girders and beams - - - - -	12,386	12th Oct. 1848	Charles De Bergue.
Applying corrugated iron in the formation of fire-proof roofs and other like structures.	12,358	2nd Dec. 1848	John Henderson Porter.
Supporting pressure and resisting strain [ <i>roofs, beams, and girders</i> ] - - - - -	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Manufacture of roofs and other structures requiring to be waterproof.	12,678	27th June 1849	John Thomas Forster.
Roofs - - - - -	13,188	22nd July 1850	Joseph Paxton.
Improvements applicable to the roofing of houses, buildings, and other structures.	13,519	18th Feb. 1851	William Beadon.
Manufacture of coverings for roofs, walls, partitions, furniture, and other similar articles; preparation of materials for such purposes; also machinery employed in such manufacture.	13,550	10th March 1851	Jean Baptiste Alphonse Brunet.
Coverings for buildings - - - - -	13,616	3rd May 1851	Charles Cowper.
Applying sheet metal to building purposes [ <i>shaping and corrugating iron for roofs</i> ] - - - - -	14,040	24th March 1852	{ Edmund Morewood. George Rogers.
Application of iron to building purposes [ <i>rolled wrought-iron beams for roofs and similar structures</i> ].	14,278	26th Aug. 1852	Charles Cowper.
Improvements applicable to roofings - - - - -	14,298	18th Sept. 1852	{ James Warren. Barnard Peard Walker.
<b>VIII.—Ceilings and Cornices.</b>			
Making mouldings and ornaments for rooms and ceilings, and for other purposes.	1576	14th Dec. 1786	Obadiah Westwood.
Constructing ceilings, either in iron or wood - - - - -	1667	26th Aug. 1788	Thomas Paine.
Manufacturing from leather, leather cuttings, shavings, or parings, and whit-leather, a leather for making mouldings, cornices, ceilings, and other ornaments for rooms.	1723	20th Jan. 1790	Samuel Hooper.
Constructing ceilings - - - - -	4710	27th Sept. 1822	James Frost.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Constructing ceilings and partitions for dwelling-houses, warehouses, workshops, or other buildings, in order to render them more secure against fire [ <i>by making and using a fireproof tile</i> ].	5810	4th July 1829	William North.
Making cornices heretofore made of marble -	7091	11th May 1836	Richard Wilson.
Constructing cornices, mouldings, and various other fittings or ornamental wood-work; machinery, tools, or apparatus for the purpose.	7569	16th Feb. 1838	John Jackson.
Manufacture of cornices and mouldings - -	8390	22nd Feb. 1840	Richard Cuerton, junior.
Manufacture of cornices;—applicable to other useful and decorative purposes [ <i>by means of voltaic electricity</i> ].	8865	8th March 1841	Thomas Spencer.
Constructing fire-proof ceilings - - -	10,047	10th Feb. 1844	Henry Hawes Fox.
Machine for making cornice ornaments - -	11,278	30th June 1846	James Hastings.
<b>IX.—Floorings, Stairs, and Rails.</b>			
Hand-rails for stairs - - - -	1799	4th April 1791	John Bevans.
Fireproof flooring for houses, warehouses, and mills.	3141	3rd June 1806	Ralph Dodd.
Spiral stair (wholly of cast iron), of a light and simple construction, for the interior of a tower, wall or turret.	3761	29th Nov. 1813	John Cragg.
Making staircase-rails - - - -	3811	26th May 1814	William Neville.
Machinery for preparing boards for flooring and for other similar purposes.	5502	1st June 1827	Malcolm Muir.
Machinery for preparing boards for flooring and other similar purposes.	6199	22nd Dec. 1831	Malcolm Muir.
Laying floors in buildings, or a new combination in the construction of such floors.	6765	16th Feb. 1835	James Hendrey.
Covering surfaces with wood [ <i>combining small pieces of thin planks for flooring</i> ].	9231	22nd Jan. 1842	Antoine Mertens.
Preparing surfaces of fabrics to be used in covering floors and other surfaces - - - }	9331	26th April 1842	{ Raoul Armand Joseph Jean Comte de la Chatre. Richard Tappin Claridge. Richard Hodgson.
Constructing floors for fire-proof buildings -	9524	25th Nov. 1842	Charles Heard Wild.
Constructing floors - - - -	9585	12th Jan. 1843	William John Loat.
Construction of stairs and steps - - -	9662	16th March 1843	Arthur Chilver Tupper.
Floorings - - - -	9737	25th May 1843	Henry Austin.
Manufacturing metal combined with other matters, for the covering of floors and other surfaces.	9987	13th Dec. 1843	Henry Purser Vaile.
Constructing fireproof floors - - -	10,047	10th Feb. 1844	Henry Hawes Fox.
Construction of flats or floors - - -	10,192	22nd Day 1844	Thomas Martin.
Machinery for working wood for making doors, shutters, sashes, mouldings, floorings, &c.	10,199	23rd May 1844	John Wilkie.
Combining iron and other materials for constructing floors and other similar purposes.	10,503	5th Aug. 1845	Peter Francis Maire.
Construction of floors of buildings - - -	11,496	15th Dec. 1846	Richard Turner.
Flooring - - - -	11,501	21st Dec. 1846	Richard Boyse Osborne.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Construction of floors and other parts of buildings; also certain kinds of furniture and fittings for buildings.	11,893	7th Oct. 1847	Alfred Vincent Newton.
Rendering the floors of buildings fireproof by the use of iron.	12,091	8th March 1848	John Henderson Porter.
Founding and constructing walls;—in part applicable to other structures [ <i>floors</i> ].	12,199	3rd July 1848	Nathaniel Beardmore.
Construction of fireproof flooring	12,260	4th Sept. 1848	George Nasmyth.
Applying corrugated iron in the formation of fireproof floors and other like structures.	12,356	2nd Dec. 1848	John Henderson Porter.
Protecting against fire [ <i>rendering floorings fireproof</i> ]	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Manufacture of stairs, copings and other articles, from plastic materials; machinery employed therein.	12,345	7th June 1849	Bennett Alfred Burton.
Making roads and ways [ <i>covering the floors of buildings with asphalte</i> ].	12,729	1st Aug. 1849	Augustus Roehn.
Forming or covering floors and other surfaces [ <i>with metallic bolts imbedded in bituminous compounds</i> ].	13,765	9th Oct. 1851	Sir John Scott Lillie.
Application of iron to building purposes [ <i>rolled wrought-iron beams, for floors and similar structures</i> ].	14,278	26th Aug. 1852	Charles Cowper.
Improvements applicable to floorings	14,398	18th Sept. 1852	{ James Warren. Barnard Peard Walker.
<b>X.—Chimney-pieces.</b>			
Building-mould or stone press for making chimney-pieces.	59	20th July 1632	Thomas Grent.
Making, marbling, rounding, and finishing mantel-pieces for chimneys, to imitate marble.	251	23rd Nov. 1686	John Shawe.
Engines, kilns, and instruments for making glass } chimney-pieces for rooms	366	12th Sept. 1700	{ Laurence Du Manior. Lewis Anne St. Marie.
Making and ornamenting chimney-pieces	1327	20th April 1782	Francis Underwood.
Ornamenting chimney-pieces and chimney-panels with foil stones, Bristol stones, paste, and all sorts of pinched glass, sapped glass, and every other stone, glass, and composition, used in or applicable to the jewellery trade.	1552	5th Aug. 1786	John Skidmore.
Ornamenting chimney-pieces with carved and moulded glass, in relief, plain, or coloured;—applicable to many other purposes.	1568	7th Nov. 1786	Thomas Rogers.
Mosaic-work used in the manufacture of chimney-pieces and slabs, and for other purposes where marbles are applied.	3366	26th July 1810	Thomas Wade.
Making chimney-pieces and various other useful and ornamental articles and things.	3609	31st Oct. 1812	Benjamin Cook.
Making brass chimney-pieces or chimney-piece frames, plain or ornamental.	3679	13th April 1813	Robert Lewis.
Combination of machinery for working marble and other stone, for jambs, mantels, chimney-pieces, and other purposes.	4741	20th Dec. 1822	Sir James Jelf.
Manufacturing fire-places and slabs	7091	12th May 1836	Richard Wilson.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Chimney-pieces - - - - -	12,465	8th Feb. 1849	William Tooth.
Manufacture of mantelpieces - - - -	12,830	2nd Nov. 1849	Hiram Tucker.
<b>XI.—Window-sashes, Frames, &amp;c.</b>			
1. ( <i>Making and casting.</i> )			
Making an engine for making mullions and transoms for windows.	11	12th Jan. 1619	John Etherington.
Making sash-frames - - - - -	669	25th Feb. 1752	John Baynes.
Machine for making sashes with plate iron - -	799	3rd Nov. 1763	Pegrum Thorpe.
Casting and working into frames, a composition instead of wood, iron, brass, and copper, for sashes and other frames.	1091	14th Dec. 1774	Francis Underwood.
Making metal bars for sash-windows - - - -	1373	24th May 1783	William Playfair.
Constructing, fixing, and arranging window-lights and sashes.	1746	27th April 1790	James Frost.
Making circular wooden sash-frames, sashes, and soffits; fanlights.	1799	4th April 1791	John Bevans.
Construction of sashes - - - - -	2007	13th Aug. 1794	{ Richard Sweetnam. Joseph Higgs.
Making and constructing the uprights and cross-bars for shop and sash windows.	2069	15th Oct. 1795	John Gregory Hancock.
Air-slides, to be fixed to windows, doors, and partitions, to prevent the ingress of air.	2590	6th Feb. 1802	Charles Mercie.
Making windows and lights - - - - -	2818	5th Feb. 1805	William Hackwood.
Window-frame and sashes - - - - -	2852	27th May 1805	John Bevans.
Making sashes - - - - -	3609	31st Oct. 1812	Benjamin Cook.
Making sashes and church windows - - - -	3678	7th April 1813	James Timmins.
Sashes, skylights, and frames for containing glass [of metal bars].	4277	11th July 1818	William Bailey.
Improvements applicable to window-sashes, either single or double, also to hung, fixed, or sliding sashes and casements, and to window-shutters and window-blinds.	4603	1st Nov. 1821	Charles Tuely.
Making metallic window-frames - - - - -	4765	18th March 1823	{ William Bailey. Thomas Horne.
Metallic frame and lap, applicable to all hothouses, greenhouses, horticultural frames and glasses, skylights, and other inclined lights and glasses.	4911	28th Feb. 1824	James Wright Richards.
Construction of window-casements and folding-sashes, by means of which the same are hung and hinged in a manner adapted more effectually to exclude rain and wind, and to afford a free circulation of air - - - - -	5119	9th March 1825	{ John Linnell Bond. James Turner.
Window-sashes and frames - - - - -	5445	9th Jan. 1827	John Whiting.
Window-sashes - - - - -	5556	11th Oct. 1827	John Wright.
Construction of window-frames, sashes, or casements, designed for security against burglars, as well as to exclude the weather - - - - -	5770	7th Feb. 1829	{ William Henry Kitchen. Andrew Smith.
Construction of window-sashes, and mode of hanging the same.	5915	6th March 1830	Thomas Prosser.
Sash-bars - - - - -	6007	6th Oct. 1830	{ Joseph Harrison. Richard Gill Curtis.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Construction of sashes for windows of buildings, applicable to hothouses, conservatories, and other purposes; mode of fitting and using the same.	7376	22nd May 1837	Elijah Leak.
Sawing, planing, tongueing, grooving, and preparing or constructing window-sashes and other frames.	7569	6th Feb. 1838	John Jackson.
Window-sashes and frames - - - - -	8343	14th Jan. 1840	Hezekiah Marshall.
Manufacture of window-sashes - - - - -	8390	22nd Feb. 1840	Richard Cuerton.
Manufacture and hanging of window-sashes - - -	8615	28th Jan. 1843	John Barrow.
Window-sashes - - - - -	10,629	22nd April 1845	William Mackie.
Windows and other articles of the like construction	11,200	7th May 1846	Edward Shepard.
Gratings of metal or wood, for the fronts of houses and general purposes, for the admission of light and ventilation - - - - -	11,230	28th May 1846	{ Richard Marvin. William Henry Moore.
Preventing the external air, dust, and noise from entering apartments [ <i>glueing over crevices rolls of fibrous materials, which may be coated with a solution of india-rubber or gutta percha.</i> ]	13,196	31st July 1850	Rodolphe Helbronner.
Windows - - - - -	13,411	12th Dec. 1850	Joseph Bunnett.
Application of plain or ornamental glass, alone or in combination, to new purposes of construction or manufacture [ <i>show-windows, verandahs</i> ].	13,458	16th Jan. 1851	Robert Cogan.
Window-sashes - - - - -	14,138	22nd May 1852	Thomas Knott Parker.
Application of iron to building purposes [ <i>constructing rolled wrought-iron bars for window-frames and cases</i> ].	14,278	26th Aug. 1852	Charles Cowper.
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(2. <i>Suspending and disconnecting.</i> )			
Machinery for hanging windows - - - - -	1851	11th Feb. 1792	William Barbor.
Hanging window-sashes and shutters so as to conceal the appearance of the lines and pulleys.	2251	14th July 1798	Richard Marlow.
Mechanical invention for suspending and securing windows and other apparatus - - - - -	5334	18th Feb. 1826	{ Benjamin Newmarch. Charles Bonner.
Manufacturing boxes and pulleys for window-sashes and for other purposes.	7125	21st June 1836	John Young.
Connecting window-sashes and shutters with the lines by which they are hung.	7173	15th Aug. 1836	George Leech.
Casting off the sash-lines and weights from window sashes, taking out window-sashes from their frames without removing the beads.	10,085	1st March 1844	William Glegg Gover.
Hanging and disconnecting window-sashes and frames.	11,080	11th Feb. 1846	John Brocklehurst.
Suspending window-sashes; construction of frames for the same.	11,959	11th Nov. 1847	George James Soward.
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3. ( <i>Opening, closing, and fastening.</i> )			
Spring screw fastening for sashes - - - - -	1075	19th July 1774	Joshua Lover Martin.
Fastenings to be applied to sashes - - - - -	2542	8th Oct. 1801	William Bullock.
Self-acting sash-fastening - - - - -	3865	20th Dec. 1814	James Smith.
Opening or shutting sashes - - - - -	4267	26th May 1818	George Michael.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Self-acting sash-fastener;—applicable to other purposes.	5370	23rd May 1826	John Loach.
Fastenings for window sashes and for such-like purposes.	8330	24th Dec. 1839	Thomas Hardeman Clarke.
Fastening window-sashes - - -	8343	14th Jan. 1840	Hezekiah Marshall.
Raising and lowering windows - - -	8828	2nd Feb. 1841	William Ward Andrews.
Apparatus and means for fastening window-sashes and windows.	9619	31st Jan. 1843	William Barnard Boddy.
Apparatus for moving and fastening windows -	10,346	14th Oct. 1844	George Hurwood.
Fastenings for window-sashes, &c. - -	10,361	22nd Oct. 1844	George Osmond.
Fastenings of windows - - -	10,376	2nd Nov. 1844	William Bewley.
Fastenings for window-sashes - - -	10,629	22nd April 1845	William Mackie.
Apparatus applicable for opening and closing windows and other instruments having the like movement.	10,861	9th Oct. 1845	Thomas Wood Gray.
Articles applied to windows - - -	11,152	25th March 1846	Edwin Cottenill.
Fastenings to be attached to windows and other articles of the like construction.	11,200	7th May 1846	Edward Shepard.
Bolts, locks, and other fastenings [ <i>fastening for windows</i> ].	11,869	16th Sept 1847	William Hancock.
Fastenings to be used in fastening window-sashes and for other like purposes.	12,698	15th Dec. 1849	Robert Harcourt.
Closing windows - - -	12,927	12th Jan. 1850	John Milwain.
<b>XII.—Glazing.</b>			
Admitting light into the internal parts of ships, vessels, buildings, and other places.	3058	7th July 1807	Apsley Pellatt.
Rendering dwelling-houses, theatres, hospitals, prisons, shipping, horticultural and other buildings, air and water tight, as far as relates to the glazing, by means of a lap made of copper or any other metal, or some metal prepared by machinery for that purpose.	3417	22nd March 1811	David Stewart.
Fixing window-glass [ <i>substitute for putty</i> ] - -	10,986	10th Dec. 1845	William Dimes.
<b>XIII.—Window-cleaning.</b>			
Apparatus to be applied to windows of houses or other buildings, to prevent accidents when such windows are being cleaned.	8574	18th July 1840	James Roberts.
Apparatus to be used by persons in cleaning windows.	12,326	11th Nov. 1848	John Browne.
<b>XIV.—Window shutters.</b>			
1. ( <i>Making.</i> )			
Sun-shade for the outside of windows - -	1489	16th July 1785	Thomas Dawes.
Making window-shutters - - -	1500	28th Oct. 1785	John Morris.
Construction of shutters - - -	2097	13th Aug. 1794	{ Richard Sweetnam. Joseph Higgs.
Air-slides to be fixed to windows, to prevent the ingress of air.	2580	6th Feb. 1802	Charles Mercie.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Window guards and shades - - -	3614	31st Oct. 1812	Robert Salmon.
Window-shutters - - - -	4318	5th Dec. 1818	John Whiting.
Window-shutters - - - -	4803	1st Nov. 1821	Charles Tuely.
Constructing shutters and blinds, of iron, steel, or any other metal, or composition thereof; constructing and fixing the same, and uniting in shutters the properties of shutters and blinds -	5507	15th June 1827	{ Thomas Don. Andrew Smith.
Construction of shutters, designed for security against burglars, as well as to exclude the weather - - - -	5770	7th Feb. 1829	{ William Henry Kitchen. Andrew Smith.
Window-shutters;—also applicable to other purposes.	7123	18th June 1836	Joseph Bunnett.
Construction of shutters, for windows of buildings and other purposes; mode of fitting and using the same.	7376	22nd May 1837	Elijah Leak.
Manufacture and construction of window-shutters and other similar articles;—partly applicable to other purposes.	9822	6th July 1843	John Newbery.
Construction of shutters for windows and for other purposes.	9865	15th Aug. 1843	Archibald Horn.
Manufacture of shutters - - - -	10,335	27th Sept. 1844	John Harcourt Quincey.
Shutters - - - -	10,508	4th Feb. 1845	William Snoxell.
Improvements applicable to extending and compressing windows, shutters, and similar useful purposes.	11,031	12th Jan. 1846	Charles Chinnock.
Construction of shutters for windows and doors -	11,161	7th April 1846	George Lewis.
Shutters and other articles of the like construction -	11,200	7th May 1846	Edward Shepard.
Shutters - - - -	13,411	12th Dec. 1850	Joseph Bunnett.
Construction of metal shutters - - - -	13,430	27th Dec. 1850	Alfred Vincent Newton.
 2. ( <i>Opening, closing, fastening, &amp;c.</i> )			
Fastenings for shutters - - - -	1510	17th Nov. 1785	John Stedman.
Hanging shutters so as to hide the appearance of the lines and pulleys.	2251	14th July 1798	Richard Marlow.
Instruments to prevent window-shutters being broken open or forced in by the wind - -	3695	15th May 1813	{ William Bullock. James Boaz.
Opening and shutting windows or sashes; application of machinery for opening window-shutters.	4267	26th May 1818	George Michael.
Mechanical invention for suspending and securing shutters and other apparatus - -	5334	18th Feb. 1826	{ Benjamin Newmarch. Charles Bonner.
Apparatus for closing shutters - - - -	7383	30th May 1837	Francis William Gerish.
Apparatus and means for opening shutters; fastening window shutters.	9619	31st Jan. 1843	William Barnard Boddy.
Fastenings for shutters - - - -	10,629	22nd April 1845	William Mackie.
Articles applied to shutters - - - -	11,152	25th March 1846	Edwin Cotterill.
Fastenings to be attached to shutters and other articles of the like construction.	11,200	7th May 1846	Edward Shepard.
Fastenings for window shutters;—applicable as a fastening generally.	11,568	8th Feb. 1847	John Loach.
Suspending shutters; construction of frames for the same.	11,959	11th Nov. 1847	George James Soward.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Manufacture of hooks and eyes and other fastenings [ <i>metallic window or shutter fastener, with a hinge, catch, and button.</i> ]	12,009	31st Dec. 1847	Mary Jenkins.
Closing shutters - - - - -	12,927	12th Jan. 1850	John Milwain.
<b>XV.—Doors and Panels.</b>			
1. ( <i>Making and ornamenting.</i> )			
Making varnished paper panels for doors - -	1027	20th Nov. 1772	Henry Clay.
Making and ornamenting panels - - -	1327	20th April 1782	Francis Underwood.
Ornamenting panels - - - - -	1552	5th Aug. 1786	John Skidmore.
Ornaments for doors, panels, and for various other purposes.	1576	14th Dec. 1786	Obadiah Westwood.
Making doors - - - - -	1769	4th April 1791	John Bevans.
Making door panels and frames - - -	2069	15th Oct. 1795	John Gregory Hancock.
Doors made to shut of themselves, without noise, and to exclude wind from the room.	2149	5th Dec. 1796	William Jackson.
Machinery for security to doors and for preventing wet passing under them; also, when applied to the doors of rooms covered with carpets, floor-cloths, or matting, will prevent the cold air from passing under such doors.	2203	18th Nov. 1797	Daniel Langton.
Air-slides to be fixed to doors and partitions, to prevent the ingress of air.	2580	6th Feb. 1802	Charles Mercie.
Making doors - - - - -	3609	31st Oct. 1812	Benjamin Cook.
Apparatus to be attached to doors, door-jambs, and hanging-stiles, to keep air from rooms, apartments, or other places.	4353	23rd March 1819	William Robinson.
Construction of doors, which are hung so as to exclude rain and wind, and to afford ventilation -	5119	9th March 1825	{ John Linnell Bon 1. James Turner.
Construction of doors, designed for security against burglars, as well as to exclude the weather -	5770	7th Feb. 1829	{ Henry Kitchen. Andrew Smith.
Making doors - - - - -	6832	13th May 1835	Charles Chubb.
Sawing, planing, tongueing, grooving, and preparing or constructing door and other frames.	7569	16th Feb. 1838	John Jackson.
Construction of doors and frames for closing the openings of fire-places, ash-pits, flues, chimneys, and retorts.	8406	3rd March 1840	John Sylvester.
Improvements partly applicable to doors - -	9614	28th Jan. 1843	William Weild.
Construction of panelling and framing for building purposes, cabinet-work, and other similar uses.	9907	13th Oct. 1843	Stephen Geary.
Iron doors, rooms, &c. - - - - -	9963	25th Nov. 1843	{ Edward Tann, senior. Edward Tann, junior. John Tann.
Construction of doors - - - - -	11,161	7th April 1846	George Lewis.
Gates, doors, and other articles of the like construction.	11,200	7th May 1846	Edward Shepard.
Manufacture of iron hurdles or fences, or other articles where wire-work may be employed [ <i>making panels of wire-work</i> ].	13,406	12th Dec. 1850	Alfred Vincent Newton.
Doors - - - - -	13,411	12th Dec. 1850	Joseph Bunnett.
Forming or covering doors or other surfaces [ <i>with metallic plates bolted together, having a space between them filled with bituminous compounds</i> ].	13,765	9th Oct. 1851	Sir John Scott Lillie, Knt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Application of iron to building purposes [ <i>constructing rolled wrought-iron door-posts</i> ].	14,278	26th Aug. 1852	Charles Cowper.
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2. ( <i>Closing, hanging and fastening.</i> )			
Fastenings for doors and gates - - -	1510	17th Nov. 1785	John Stedman.
Quadrant or quarter circle and standard, fixed to doors for the purpose of shutting them.	1547	13th June 1786	Francis Moore.
Spring for shutting doors - - -	1742	13th April 1790	Henry Downer.
Machinery for hanging doors - - -	1851	11th Feb. 1792	William Barbor.
Affixing and hanging certain spring-joints and other apparatus to doors.	2622	20th May 1802	Thomas Pritty.
Instruments to prevent doors being broken open } or forced in by the wind - - - }	3695	15th May 1813	{ William Bullock. James Boaz.
Bolt or fastening, particularly applicable as a night-bolt.	4675	4th June 1822	Henry Septimus Hyde Wollaston.
Springs and other apparatus used for closing doors and gates.	5123	15th March 1825	John Collinge.
Mechanical invention for suspending and securing } gates, doors, and other purposes - - }	5334	18th Feb. 1826	{ Benjamin Newmarch. Charles Bonner.
Springs for doors and other purposes - - -	6477	5th Oct. 1833	Andrew Smith.
Construction of springs for doors - - -	7080	3rd May 1836	William Augustus Howell.
Apparatus for closing doors and gates - - -	7383	30th May 1837	Francis William Gerish.
Arrangement and construction of apparatus for hanging and closing doors.	7876	21st Feb. 1839	John Silvester.
Construction of door-springs - - - -	8620	7th Sept. 1840	John Whitehouse, junior.
Opening and shutting doors - - - -	8828	2nd Feb. 1841	William Ward Andrews.
Apparatus for fastening doors - - - -	9338	13th July 1843	Henry Smith.
Fastenings applicable to building purposes - - -	9958	21st Nov. 1843	Francis Higginson.
Fastenings for doors, &c. - - - -	10,361	22nd Oct. 1844	George Osmond.
Fastenings for doors, &c. - - - -	10,376	2nd Nov. 1844	William Bewley.
Articles applied to doors - - - -	11,152	25th March 1846	Edward Cotterill.
Fastenings to be attached to gates, doors, and other articles of the like construction.	11,200	7th May 1846	Edward Shepard.
Fastenings for doors - - - -	11,568	8th Feb. 1847	John Loach.
Closing and securing the doors of apartments ;— partly applicable to other purposes.	12,129	20th April 1848	John Britten.
Closing doors - - - -	12,927	12th Jan. 1850	John Milwain.
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<b>XVI—Gates, Hurdles, Palisades.</b>			
Making and ornamenting railings and balustrades -	1327	2nd May 1782	Francis Underwood.
Making hurdles, gates, palisades, verandahs, balustrades, staircase-rails, espalier-frames, and other articles.	3611	26th May 1814	William Neville.
Park or other gates [ <i>opening of themselves on the approach of a carriage</i> ].	5367	23rd May 1826	John Parker.
Manufacture of iron gates, gate-posts, fencings, and gratings.	9365	24th May 1842	James Boydell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUILDING PROCESSES—continued.</b>			
Manufacture of palisades, gates, and fences;—applicable to other purposes.	10,255	10th July 1844	Charles Henry Capper.
Making hop-poles, hurdles, fencing-ropes, basket or wicker work, and other similar articles.	11,837	19th Aug. 1847	Osborne Reynolds.
Manufacture of iron hurdles or fences or other articles where wire-work may be employed [ <i>crimping or crinkling the warp or weft or both, or weaving wire-work</i> ].	13,406	12th Dec. 1850	Alfred Vincent Newton.
Construction of fences - - - - -	14,174	19th June 1852	William Edward Newton.
Manufacture of metallic fences, applicable to verandahs, truss-frames for bridges, and to other analogous manufactures.	14,252	7th Aug. 1852	Alfred Vincent Newton.
 <b>BUTTONS, BUCKLES, STUDS, AND OTHER DRESS-FASTENINGS.</b>			
<b>X.—Buttons, Studs, &amp;c.</b>			
<i>(Preparing and making—Compositions for making.)</i>			
Casting and making hollow pewter or block-tin buttons - - - - -	225	25th April 1683	{ Richard Maundrell. John Williams.
Manufacturing gold and silver buttons and studs, set with stones, paste, &c., by making the cups out of a solid piece of gold or silver, without soldering, and with a new letter link to distinguish them from others.	959	25th May 1770	John Smith.
Method of making coat-buttons, breast-buttons, sleeve-buttons, vest and other buttons, studs, bracelets, necklaces, lockets, rings, watch-chains, boxes, and trinkets.	1077	31st Aug. 1774	Isaac Whitehouse.
Composition of gold, silver, and metal, for making coat and waistcoat buttons.	1148	6th March 1777	William Williams.
Making buttons of paper, japanned, with or without shanks of metal or catgut, or set in cups or sockets of metal.	1180	5th Feb. 1778	Henry Clay.
Making buttons of burnt earth or porcelain - -	1475	3rd May 1785	Thomas de la Mayne.
Making buttons and button-moulds of wood - -	1521	23rd Jan. 1786	John Eginton.
Making coat, waistcoat, and sleeve buttons, and painting the same of different colours and devices.	1526	31st Jan. 1786	John Francis.
Making and casting buttons and button-shanks -	1553	5th Aug. 1786	Joseph Ashton.
Making buttons of dyed materials - - - -	1572	9th Nov. 1786	Henry Clay.
Making coat, breast, and other buttons - - -	1576	14th Dec. 1786	Obadiah Westwood.
Manufacturing coat and waistcoat buttons, plain and figured, from bone and ivory.	1582	15th Jan. 1787	Joseph Rabone.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUTTONS, BUCKLES, &amp;c.—continued.</b>			
Manufacturing gilt and plated coat and waistcoat buttons, by uniting (by means of tin, or tin and lead mixed) the gilt and plated shells, with bottoms of copper, brass, iron, or mixed and compound metals.	1586	1st Feb. 1787	Robert Hickman.
Preparing steel, and ornamenting the same in buttons and other steel-work.	1621	17th Sept. 1787	John Rose.
Making buttons of iron or steel, covered with tin and other metal, or tin alone.	1624	30th Oct. 1787	James Alston.
Manufacturing buttons of a material not before used for the purpose.	1729	23rd Feb. 1790	Henry Clay.
Making the shanks or eyes of buttons, by the application of rollers, presses, and other implements.	1782	16th Nov. 1790	William Whitmore.
Machine for making metal shanks for buttons -	2010	5th Sept. 1794	Ralph Heaton.
Making buttons for wearing-apparel - - -	2374	4th Feb. 1800	Joseph Barnett.
Manufacturing buttons - - - - -	3748	4th Nov. 1813	Benjamin Sanders, senior.
Manufacture of buttons for military, naval, and other uniforms and liveries - - - - }	5062	23rd Dec. 1824	{ James Deykin. William Henry Deykin.
Constructing or making buttons - - - - -	5264	13th Oct. 1825	Benjamin Saunders.
Manufacturing buttons - - - - -	5265	13th Oct. 1825	Thomas Dwyer.
Making buttons; machinery for the purpose [covered buttons].	5577	4th Dec. 1827	Thomas Tyndal.
Buttons; machinery for manufacturing the same [covered buttons].	5777	26th March 1829	William Church.
Making and constructing buttons - - - -	6155	30th Aug. 1831	Benjamin Aingworth.
Clothes-buttons - - - - -	6177	7th Oct. 1831	John Christopher.
Clothes-buttons - - - - -	6291	3rd Aug. 1832	John Christopher.
Manufacture of certain description of buttons; application of machinery for the purpose.	6296	15th Aug. 1832	Thomas Wells Ingram.
Buttons - - - - -	6407	4th April 1833	{ George Rodgers. John Tatham.
Metallic shanks for buttons - - - - -	6417	4th May 1833	John Holmes.
Manufacture of buttons - - - - -	6641	10th July 1834	John Aston.
Manufacturing buttons for clothes - - - -	6787	16th Feb. 1835	Samuel Burrell.
Buttons - - - - -	6935	28th Nov. 1835	Humphrey Jefferies.
Manufacture of certain description of buttons; and tools used in the manufacture thereof.	7380	4th May 1837	Thomas Wells Ingram.
Manufacture of covered buttons - - - - -	7508	14th Dec. 1837	William Elliott.
Button for protecting the thread or shank from friction and wear.	7609	7th April 1838	George Barnett.
Manufacture of buttons - - - - -	7733	7th July 1838	Cornelius Alfred Jaquin.
Metallic tissues applicable to the making of buttons	7785	30th Aug. 1838	Miles Berry.
Perforated button - - - - -	7798	6th Sept. 1838	Henry Gibbs.
Forming moulds for casting in metal, studs, buttons, and a variety of other articles.	7869	13th Nov. 1838	John Holmes.
Cutting out, stamping, or forming and piercing, buttons, shells, and backs for buttons or other articles, from metal plate; machinery and tools for the purpose - - - - - }	8354	21st Jan. 1840	{ Charles Rowley. Benjamin Wakefield.
Manufacturing buttons from certain materials -	8548	17th June 1840	Richard Prosser.
Buttons, and mode of fixing them to clothes -	8596	8th Aug. 1840	John Isaac Hawkins.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUTTONS, BUCKLES, &amp;c.—continued.</b>			
Producing surfaces to be used for printing, embossing, or impressing [ <i>dies for impressing buttons by the agency of voltaic electricity</i> ].	8743	17th Dec. 1840	William Tudor Mabley.
Manufacture of covered buttons - - - - -	8761	31st Dec. 1840	Joseph Parkes.
Manufacture of covered buttons; preparing metal surfaces for such manufacture, and for other purposes.	8814	26th Jan. 1841	Cornelius Alfred Jaquin.
Fastening buttons and other articles on to wearing-apparel and other descriptions of goods.	8917	5th April 1841	William James Barsham.
Manufacture of horn buttons; and dies to be used in the making of such descriptions of buttons.	8931	22nd April 1841	Thomas Harris.
Manufacture of buttons - - - - -	8932	22nd April 1841	Humphrey Jefferies.
Manufacture of buttons and fastenings for wearing-apparel - - - - -	9058	27th Aug. 1841	{ Thomas Chambers. Francis Mark Franklin. Charles Rowley.
Manufacture of buttons - - - - -	9115	7th Oct. 1841	Benjamin Aingworth.
Manufacture of covered buttons, ornaments, and fastenings for wearing-apparel.	9394	13th June 1842	Isaac Moss.
Manufacture of covered buttons - - - - -	9423	16th July 1842	John Chatwin.
Manufacture of perforated metal buttons - - -	9519	15th Nov. 1842	{ Charles Rowley. James Turner.
Buttons - - - - -	9566	22nd Dec. 1842	William Bridgea.
Manufacture of covered buttons - - - - -	9686	4th April 1843	{ John Aston. William Elliott.
Construction and manufacture of buttons and other fastenings of dress.	10,019	16th Jan. 1844	John Fielding Empson.
Manufacturing buttons for wearing-apparel - -	10,036	6th Feb. 1844	Benjamin Aingworth.
Manufacture of buttons - - - - -	10,064	21st Feb. 1844	William Sheldon.
Manufacture of covered buttons - - - - -	10,217	4th June 1844	William Elliott.
Manufacture of buttons from horn or hoof; manufacture of articles in dies, from horn or hoof and other matters requiring similar pressure.	10,461	11th Jan. 1845	William Tudor Mabley.
Manufacture of covered buttons - - - - -	10,484	21st Jan. 1845	{ Thomas Turner Chatwin. George Seymour.
Manufacture of buttons - - - - -	10,883	16th Oct. 1845	William Elliott.
Buttons and other fastenings for wearing-apparel; machinery for manufacturing parts of the same.	11,088	11th Feb. 1846	Charles Rowley.
Manufacture of porcelain buttons - - - - -	11,216	22nd May 1846	Charles Thomas Lutwyche.
Buttons and ornaments for dress - - - - -	11,227	28th May 1846	John Aston.
Machinery for making dress-fastenings;—partly applicable to other useful purposes [ <i>buttons</i> ].	11,332	11th Aug. 1846	Charles Iles.
Forming moulds for casting metal [ <i>buttons</i> ] - -	11,664	20th April 1847	Samuel Kenrick.
Manufacture of buttons - - - - -	11,830	4th Aug. 1847	Arthur Boyle.
Bolts, locks, and other fastenings [ <i>buttons for braces</i> ].	11,869	16th Sept. 1847	William Hancock.
Studs and buttons - - - - -	12,092	9th March 1848	Henry Bashard Hobdell.
Dress-fastenings and attaching the same; articles made wholly or in part of certain flexible materials [ <i>buttons and button-shanks</i> ].	12,120	12th April 1848	John Masters.
Manufacture of buttons - - - - -	12,257	23th Aug. 1848	Charles Rowley.
Manufacturing inkstands and other articles in dies or moulds; also producing ornamental surfaces [ <i>ornamental buttons</i> ].	12,587	26th April 1849	Charles Ilea.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUTTONS, BUCKLES, &amp;c.—continued.</b>			
Articles to be attached to dresses [ <i>making buttons of sheet iron, covered with zinc</i> ].	12,796	12th Oct. 1849	Charles Rowley.
Manufacture of buttons, studs, and other dress-fastenings and ornaments - - - - }	12,865	28th Nov. 1849	{ James George Newey. James Newman.
Manufacture of buttons; apparatus and machinery used therein.	12,963	9th Feb. 1850	Louis Jean Jacques Viscount de Scrimone.
Preparation of materials to produce a composition for making buttons and other articles where hardness, strength, and durability are required.	13,021	23rd March 1850	Alfred Vincent Newton.
Manufacture of buttons and other fastenings - -	13,129	12th June 1850	Gustavus Palmer Harding.
Manufacture of buttons - - - - -	13,291	17th Oct. 1850	James Henry Williams.
Manufacture of buttons - - - - -	13,487	1st Feb. 1851	Samuel Allen, junior.
Preparation of materials for the production of a composition for manufacturing buttons and other articles where hardness and durability are required.	13,542	4th March 1851	Alfred Vincent Newton.
Manufacture of buttons - - - - -	13,640	27th May 1851	John Fielding Empson.
Buttons and ornaments for dress; machinery for making the same.	13,679	3rd July 1851	John Aston.
Manufacture of buttons, studs, and other articles } where metal and glass are combined - - - }	13,861	17th Dec. 1851	{ James Souter. James Worton.
Manufacture of covered buttons - - - - -	13,871	19th Dec. 1851	William Elliott.
Manufacture of buttons - - - - -	13,923	27th Jan. 1852	William Brindley.
Manufacture of buttons and other dress-fastenings; machinery and apparatus to be used therein.	14,277	26th Aug. 1852	George Twigg.
<b>II.—Buckles; Shoe and other Fastenings.</b>			
<i>(Making, japanning, &amp;c.)</i>			
Buckles without anchors, with a folding tongue -	434	12th Aug. 1721	Isaac de la Chaumette.
Japanning mourning-buckles of a blue cast or colour	1019	13th June 1772	William Tutin.
Manufacture of buckle-chapes - - - - -	1273	13th Dec. 1780	Daniel Winwood.
Making and fixing together buckle chapes and tongues.	1293	28th May 1781	Daniel Winwood.
Buckles - - - - -	1348	2nd Dec. 1782	Francis Proudfoot.
Shoe-buckle - - - - -	1350	13th Jan. 1783	John Stedman.
Chape for buckles - - - - -	1401	17th Nov. 1783	William Gray.
Fastenings for shoe-buckles, knee-buckles, stock-buckles, and other buckles.	1410	19th Dec. 1783	John Stedman.
Buckles with new joint and spring chape-fastenings	1427	17th April 1784	William Eley.
Steel buckle-springs for boots, breeches, and other articles.	1444	20th July 1784	Jean Philippe.
Buckle-chape or shoe-fastening - - - - -	1456	26th Nov. 1784	David Taylor.
Construction of chapes for shoe and other buckles -	1457	29th Nov. 1784	George Hall.
Making shoe, knee, stock and other buckles, of silver or other metal.	1466	26th Feb. 1785	William Playfair.
Japanning or bluing buckles or clasps for mourning, the same being made of tin, pewter, lead, or mixture or composition of the said materials.	1462	24th May 1785	John Cooper.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUTTONS, BUCKLES, &amp;c.—continued.</b>			
Making elastic spring buckles of gold, silver, iron, steel, copper, pinchbeck, or other mixed metals, also of metals plated with gold and silver.	1549	1st July 1786	Thomas Cheston.
Buckle-chape or fastening for shoes, with a spring joint-plate, on which may be affixed any rim, ornament, or device.	1555	5th Aug. 1786	William Dudley.
Preparing steel, and ornamenting the same in buckles and other steel-work.	1621	17th Sept. 1787	John Rose.
Buckle to be affixed to a shoe or slipper, and worn therewith.	1654	30th June 1788	James Tylee.
Buckle-chape or fastening for shoes - - -	1655	30th June 1788	John Stedman.
Fastenings for shoes, boots, knee-bands, and for other purposes; to be used instead of buckles.	1665	15th Aug. 1788	Joseph Jukes.
Making spring shoe-buckles - - - - -	1679	2nd May 1789	Samuel Hands.
Chape and fastening for buckles - - - -	1690	2nd July 1789	Thomas Freeth.
Shoe-buckles - - - - -	1700	29th Aug. 1789	John Elin.
Spring fastening for shoe-buckles - - - -	1715	8th Dec. 1789	John Maxwell.
Making chapes and shoe-buckles - - - -	1726	23rd Jan. 1790	Richard Law.
Ornamenting buckles - - - - -	1727	23rd Feb. 1790	Samuel Hands.
Fastenings for shoe, knee, boot, and other buckles -	1741	1st April 1790	James Tylee.
Construction of fastenings for shoes;—applicable to other purposes where buckles are used.	1808	7th Sept. 1792	James Smith.
Fastening shoes and boots with spring fastenings -	1914	30th Oct. 1792	Barnett Guest.
Making buckles and shoe-fastenings - - -	1990	17th May 1794	William Bell.
Making shoe-catches with spring straps, to be used with buckle-rings.	2011	13th Sept. 1794	Benjamin Adams.
Making elastic fastenings for shoes, &c. - - -	2581	28th Nov. 1801	George Hall.
Spring clasps for buckles, locketts, and other ornaments of dress.	2801	19th Dec. 1804	Solomon Hougham.
Fastening shoes to the feet of men, women, and children.	2824	19th Feb. 1805	William Martin.
Construction of buckles - - - - -	3501	30th Oct. 1811	Thomas Davies.
Security in the formation or appendages of shoes -	3913	11th May 1815	Charles Pitt.
Metal stud to be applied to boots, shoes, and other like articles.	5653	13th May 1828	Thomas Jackson.
Clasps or fastenings, and connecting-pieces; principally applicable to certain articles of dress.	8068	13th May 1839	John Henry Rodgers.
Patten and clog ties, and other articles or fastenings of dress - - - - -	8938	27th April 1841	{ Alexander Southwood Stocker. Clement Heeley.
Buckles - - - - -	9087	20th Sept. 1841	François Marie Agathe Dez Maurel.
Buckles - - - - -	9650	2nd March 1843	Thomas Simpson.
Means and apparatus for fastening boots or shoes to the leg or foot.	10,509	4th Feb. 1845	William Henry Smith.
Buckles, clasps, and other fastenings - - -	10,680	22nd May 1845	Augustus Septimus Braithwaite.
Buckles suitable for harness and for other purposes [employing gutta-percha as a spring for the tongues].	10,991	10th Dec. 1845	Henry Lawrence.
Buckles, or substitutes for buckles - - -	12,558	3rd April 1849	Samuel Alfred Carpenter.
Manufacture of buttons and other dress-fastenings; machinery and apparatus to be used therein [also clasps].	14,277	26th Aug. 1852	George Twigg.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUTTONS, BUCKLES, &amp;C.—continued.</b>			
<b>III.—Hooks and Eyes.</b>			
Machinery to be employed in the manufacture of wire hooks and eyes.	8870	2nd Nov. 1840	Josiah Pumphrey.
Forms or construction of hooks and eyes for fastening dresses and for other uses.	9973	5th Dec. 1843	William Wardroper.
Fastenings for surgical and other bandages, and for articles of dress [ <i>hooks and eyes</i> ].	11,037	13th Jan. 1846	Thomas Moorcroft Benbow.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>forming metal button-holes, and button or hook-and-eye fastenings</i> ].	11,149	25th March 1846	Charles Smith.
Manufacture of hooks and eyes; also packing the same.	11,720	27th May 1847	Henry McEvoy.
Manufacture of hooks and eyes and other fastenings [ <i>enamelling or japanning the same</i> ].	12,009	31st Dec. 1847	Mary Jenkins.
Dress-fastenings, and attaching the same; articles made wholly or in part of certain flexible materials [ <i>attaching hooks or eyes to elastic web or cord</i> ].	12,120	12th April 1848	John Masters.
Construction of articles of wearing-apparel; applicable to fastenings for the same.	12,696	4th July 1849	Henry Bailey.
Articles to be attached to dresses [ <i>hooks and eyes</i> ] -	12,796	12th Oct. 1849	Charles Rowley.
<b>IV.—Glove-fastenings.</b>			
Fastening gloves by a new method and making them fit close to the wrist.	1451	27th Sept. 1784	William Stable.
Apparatus for attaching buttons and fasteners to gloves and parts of garments.	9319	13th April 1842	William Falconer.
Fastenings for gloves, mits, and cuffs, which may be applied to articles of dress generally.	9696	19th April 1843	William Henry Smith.
Fastenings for gloves and other wearing-apparel, and mode of attaching the same.	9729	16th May 1843	William Mills.
Fastenings for gloves - - - - -	10,021	23rd Jan. 1844	Claude François Jules Petit.
<b>V.—Trousers-traps.</b>			
Apparatus for attaching trousers and gaiters to boots and shoes.	4745	26th Dec. 1822	Thomas Rogers.
Construction of boots and shoes [ <i>method of attaching trouser-traps</i> ].	6888	22nd Aug. 1835	William Johnson.
Fastening trousers and other parts of dress or apparel.	7893	1st Dec. 1838	Luke Hebert.
Fastening to attach straps to the bottoms of trousers	8452	26th March 1840	James Sabberton.
Trousers-traps - - - - -	8922	5th April 1841	{ Joseph Wilson Nuttall. Henry Holden.
Fastenings for trouser-traps, and fastenings for wearing-apparel generally.	9545	20th July 1843	James Gollop Beater.
Trousers-fastenings, attaching the same; application of an elastic material to trousers and other articles of dress.	10,694	31st May 1845	John Masters.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUTTONS, BUCKLES, &amp;c.—continued.</b>			
Apparatus for holding down trousers - - - -	11,867	9th Sept. 1847	James Pitt.
Fastening down trousers or other articles of wearing-apparel.	13,605	26th April 1851	Benjamin Hyam.
Trousers-strap fasteners - - - - -	13,919	24th Jan. 1852	Alfred Richard Corpe.
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<b>VI.—Braces.</b>			
Bracer or sling, acting by means of a steel spring, for suspending breeches, pantaloons, or drawers.	2361	2nd Dec. 1799	John Foster.
Manufacture of braces - - - - -	10,462	21st Jan. 1845	Caleb Bedells.
Dress-fastenings, and attaching the same; articles made wholly or in part of certain flexible materials [connecting braces at the back by elastic web].	12,120	12th April 1848	John Masters.
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<b>VII.—Miscellaneous Fastenings, Bands, Straps, &amp;c.</b>			
Shooting belt or girdle - - - - -	776	8th June 1762	James Edgell.
Spring bands or fastenings for apparel or furniture of man or beast.	1404	1st Dec. 1783	Martin Vanbutchell.
Method of fastening skates on to the feet - -	1458	4th Dec. 1784	John Horatio Savigny.
Pocket-fastening - - - - -	2347	4th Nov. 1799	James Bell.
Gaiters, and mode of fastening the same - -	3694	11th May 1813	{ John Fisher. Layton Cooke.
Hussar-garter, with elastic springs and fastenings; elastic springs for pantaloons and other articles.	4056	14th Aug. 1816	Robert Tripp.
Fastening skates on to the feet - - - - -	4346	4th March 1819	William Milward.
Making umbilical, ventral, lumbar, and spinal bandages or supporters, to be permanently or occasionally affixed to clothes.	4901	19th Feb. 1824	Henry Adcock.
Straps for wearing-apparel - - - - -	7802	10th Sept. 1838	{ Alexander Southwood Stocker. Clement Heeley.
An improved tag for laces - - - - -	8478	16th April 1840	William Unsworth.
Fastenings for wearing-apparel - - - - -	8585	11th July 1840	George Barnett.
Fastenings for wearing-apparel; apparatus for making the same and similar articles; preparing the said articles for sale.	8609	27th Aug. 1840	William Church.
Fastenings for bands, straps, and parts of wearing-apparel.	8918	5th April 1841	Henry M'Evoy.
Construction and manufacture of connectors or fastenings applicable to garments and to other uses.	9202	21st Dec. 1841	William Henry Smith.
Fastenings for wearing-apparel - - - - -	9649	2nd March 1843	John Frearson.
Fastenings for wearing-apparel - - - - -	9879	6th Sept. 1843	William Thomas.
Fastenings for wearing-apparel - - - - -	10,247	3rd July 1844	{ James George Newey. James Newman.
Fastenings for articles of dress - - - - -	10,699	3rd June 1845	John Reading.
Fastenings for articles of dress - - - - -	11,037	13th Jan. 1846	Thomas Moorcroft Benbow.
Machinery for making dress-fastenings;—partly applicable to other useful purposes.	11,332	11th Aug. 1846	Charles Hes.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>BUTTONS, BUCKLES, &amp;c.—continued.</b>			
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of fastenings for wearing-apparel</i> ] - - - - -	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Fastenings to elastic bands - - - - -	11,554	1st Feb. 1847	Thomas Barnabas Daft.
Fastening or system of lacing without eyelet-holes.	11,941	4th Nov. 1847	Jean Marie Durafour.
Dress-fastenings; attaching the same; articles, made wholly or in part of certain flexible materials or fabrics.	12,120	12th April 1848	John Masters.
Manufacture of bands or straps for hats, caps, shoes, and stocks, - - - - -	12,191	24th June 1848	Deane Samuel Walker.
Fastening and connecting fabrics and garments -	12,221	26th July 1848	William Thomas.
Fastening for wearing-apparel - - - - -	12,318	4th Nov. 1848	Joseph Cooper.
Manufacture of certain descriptions of dress-fastenings; making up dress-fastenings and other articles for sale.	12,319	4th Nov. 1848	Charles Hcs.
Improvements applicable to fastenings for wearing-apparel.	12,696	4th July 1849	Henry Bailey.
Manufacture of stays and other parts of dress [ <i>method of fastening stays</i> ] - - - - -	12,736	9th Aug. 1849	{ William Thomas. John Marsh.
Articles to be attached to dresses [ <i>making fastenings for garters</i> ].	12,796	12th Oct. 1849	Charles Rowley.
Fastenings for garments - - - - -	13,463	31st Jan. 1851	George Bradshaw.
Chains, chain-pins, swivels, brooches, and other fastenings for wearing-apparel - - - - -	13,609	29th April 1851	{ Benjamin Williams Goode. Richard Boland. James Newman.
Brooches and other dress-fastenings - - - - -	13,799	4th Nov. 1851	Theodore Kosmann.
Fastenings for garments - - - - -	14,169	12th June 1852	George Pate Cooper.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>C.</b>			
<b>CALCULATING-MACHINES; APPARATUS FOR TEACHING, RESOLVING PROBLEMS, &amp;c.</b>			
<b>I.—Calculating-machines.</b>			
Apparatus for making calculations - - -	9285	27th Jan. 1842	Francis Marston.
Calculating-machines; partly applicable for purposes where wheel-work is required.	9616	28th Jan. 1843	David Isaac Wertheimer.
Machines for effecting or facilitating arithmetical processes and computations.	11,441	5th Nov. 1846	David Barnett.
Ready-reckoning machine - - - - -	11,806	19th July 1847	Joseph Jean Baranowski.
Calculating-machines - - - - -	11,928	28th Oct. 1847	Jean Jayet.
Ready-reckoning machine - - - - -	11,955	11th Nov. 1847	Joseph Jean Baranowski.
Machinery for counting, numbering, and labelling -	12,063	23rd April 1850	Joseph Jean Baranowski.
Calculating-machine ("Arithmometer") - -	13,504	10th Feb. 1851	{ Charles Xavier Thomas De Colmar.
<b>II.—Teaching, keeping Accounts; Tablets for securing Thoughts.</b>			
Set of tablets by which every person of genius, business and reflection, may secure all their night thoughts worth preserving, though in the dark.	899	17th March 1768	Christopher Pinchbeck.
Speedy and effectual method or plan for detecting errors in accounts of all kinds, whereby such accounts will be kept and adjusted in a much more regular and concise manner than by any other method hitherto known.	2083	26th Jan. 1796	Edward Thomas Jones.
Magnetic toy, to facilitate the teaching of children to spell, read and cypher, in any tongue.	3371	14th Aug. 1810	William Whitmore.
Machine for teaching languages, music, arithmetic, &c., to the blind, by the touch or feeling ("Panagram").	3729	9th Aug. 1813	John Casson.
Instrument or apparatus for the purpose of teaching or instructing in mathematics, geography, astronomy and other sciences, for the use of resolving problems in navigation, spherics, and other sciences.	5874	10th July 1828	William Muller.
Method and apparatus for setting sums, for the purpose of teaching some of the rules of arithmetic.	6038	13th Nov. 1830	John Tyrrell.
Preparing materials to facilitate the teaching of writing.	8633	17th Sept. 1840	Moses Poole.
Time-teachers and boxes; manufacturing the same -	12,146	4th May 1848	Alexander Southwood Stocker.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CANDLE MANUFACTURE ;—PREPARING CANDLE AND OTHER WICKS.</b>			
<b>I.—Treating, melting, and cutting Tallow, &amp;c.</b>			
Extracting tallow or other liquid substance from bones - - - - - }	89	18th March 1636	{ Edward Biddle. Thomas Osbaldstone.
Refining spermaceti, and making candles thereof -	986	10th Aug. 1770	Daniel Bridges.
Machine to melt tallow without any fire touching the same, so as to manufacture foreign tallow to greater perfection than town tallow now is, and to make the English tallow to such perfection as nearly to equal spermaceti.	1174	16th Dec. 1777	Thomas Forrest.
Cutting up tallow, fat, spermaceti and wax, for melting.	2108	24th May 1796	Joseph Stacey Sampson.
Producing tallow or fat - - - - -	2330	16th July 1799	Wilson Fitzgerald.
Applying heat for melting and manufacturing animal fat and other solid substances.	2445	27th Oct. 1800	Thomas Binns.
Machine for cutting tallow for tallow-chandlers and soap-boilers.	2716	21st June 1803	Thomas Brown.
Hardening and improving tallow and other animal fats and oils, for making candles.	4342	9th Feb. 1819	Edward Heard.
Machine to cut fat and other articles of a like nature, preparatory to melting, for making tallow, soap, and candles ;—applicable to other similar purposes.	4609	9th Nov. 1821	James Gardner.
Apparatus for melting and refining tallow, and other similar purposes.	4805	19th June 1823	James Smith.
Preparation of certain substances for making candles, including a wick peculiarly constructed for the purpose [ <i>clarifying tallow by extracting the elaine</i> ].	5183	9th June 1825	Moses Poole.
Preparation of fatty substances, and application thereof to the purposes of affording light.	5345	20th March 1826	Nicholas Hegesippe Manicler.
Manufacture of a material produced from a vegetable substance; application thereof for affording light, and for other uses [ <i>cocoa-nut oil for making candles</i> ].	5863	2nd Nov. 1829	James Soames, junior.
Process of preparing tallow and stuff from fatty materials, and refining the same for the manufacture of candles, and for other purposes.	6311	27th Sept. 1832	Charles Watt.
Preparing, purifying, and refining tallow-stuff, fatty materials, and animal or vegetable oils, for various purposes.	7028	8th March 1836	Charles Watt.
Operating on certain vegetable and animal substances, in the process of making candles therefrom - - - - - }	7184	15th Sept. 1836	{ John Frederick William Hempel. Henry Blundell.
Manufacture or preparation of materials to be used as a substitute for bees'-wax ;—parts of which improvements are applicable to other purposes [ <i>separating stearine from elaine in palm oil and mixtures of oily and fatty substances, naphtha, and resinous bodies ; mixing such substances to render them better adapted for burning in oil lamps, for use as substitutes for bees'-wax, &amp;c.</i> ].	7223	15th Nov. 1836	Fletcher Woolley.
Improvements partly applicable to preparing tallow for the manufacture of candles.	8101	12th June 1839	William Hawes.
Operating upon oils and fats - - - - -	8423	10th March 1840	George Gwynne.
Separating the solid from the liquid parts of tallow and other fatty matters.	8444	25th March 1840	Elhanan Bicknell.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CANDLE MANUFACTURE, &amp;c.—continued.</b>			
Treating and preparing certain oils and fatty matters.	8456	28th March 1840	John Bethell.
Purifying and solidifying tallows, grease, and oleaginous substances.	8457	30th March 1840	Claude Joseph Edmee Chaudron Junot.
Operating on oils and fats - - - - -	8681	5th Nov. 1840	George Gwynne.
Purifying tallow-fat and oils, by depriving them of offensive smell, and by solidifying such as are fluid, also giving additional hardness to such as are solid; separating stearine or stearic acid from elaine in such substances.	8686	5th Nov. 1840	George Delianson Clark.
Purifying vegetable and animal oils, fats, and tallows, to render them suitable to the making of soap, or for burning in lamps, and for other purposes.	8752	23rd Dec. 1840	David Walther.
Process of and apparatus for purifying and disinfecting greasy and oily substances, animal and vegetable.	8854	22nd Feb. 1841	William Newton.
Bleaching, changing the colours, and otherwise preparing, purifying, and refining, tallow and other substances, mixtures, compounds, and manufactures.	9396	21st June 1842	Henry Hough Watson.
Treating certain animal matters to obtain products applicable to the making of candles, and to other purposes.	9479	29th Sept. 1842	William Smith.
Treating an unctuous substance to obtain products for manufacturing candles, and for other purposes [operating upon cocoa-nut oil].	9510	8th Nov. 1842	William Coley Jones.
Operating on certain organic bodies to obtain products therefrom for manufacturing candles, and for other purposes [tallow and oils] - - - - -	9542	8th Dec. 1842	{ William Coley Jones. George Fergusson Wilson.
Apparatus for and process of treating fatty and other substances, for making candles, and for other uses - - - - -	9944	16th Nov. 1843	{ George Gwynne. George Fergusson Wilson.
Treating fatty and oily matters to obtain products for the manufacture of candles, and for other uses - - - - -	10,000	28th Dec. 1843	{ George Gwynne. George Fergusson Wilson.
Separating the fatty and oily portions from the membranous portions of animal and vegetable substances - - - - -	10,127	28th March 1844	{ Robert Mollett. Jesse Bridgman.
Treating certain fatty or oily matters - - - - -	10,191	20th May 1844	{ George Gwynne. George Fergusson Wilson.
Obtaining stearine from oil, applicable in the making candles.	10,253	10th July 1844	Moses Poole.
Treating fatty and oily matters - - - - -	10,294	29th Aug. 1844	James Pillans Wilson.
Treating fatty and oily matters - - - - -	10,306	9th Sept. 1844	James Pillans Wilson.
Treating a certain vegetable matter for the manufacture of candles [olive oil].	10,312	12th Sept. 1844	James Power.
Treating or preparing oil or fatty matters - - - - -	10,313	12th Sept. 1844	William Newton.
Treating fatty and oily matters - - - - -	10,371	31st Oct. 1844	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson.
Treating fatty and oily matters - - - - -	10,435	12th Dec. 1844	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson.
Pressing tallow and other matters, substances, and fabrics.	10,540	3rd March 1845	William Palmer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CANDLE MANUFACTURE, &amp;C.—continued.</b>			
Treating certain inflammable matters - - -	10,664	10th May 1845	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson.
Preparation of materials to be employed for producing illumination.	10,903	31st Oct. 1845	Henry Clark.
Treating inflammable matters; manufacture of candles - - - - -	11,008	20th Dec. 1845	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson.
Treating fatty matters - - - - -	11,036	13th Jan. 1846	Jean Marie Durnerin.
Refining and purifying animal and vegetable grease	11,112	25th Feb. 1846	Peter Bancroft.
Treating fatty and oily matters - - - - -	11,146	25th March 1846	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson. John Jackson.
Process of and apparatus for treating fatty and oily matters - - - - -	11,470	1st Dec. 1846	{ George Fergusson Wilson. John Jackson.
Manufacture of glue; treating products obtained in the manufacture of the same [ <i>obtaining fat from the refuse</i> ].	11,528	14th Jan. 1847	Alexander M'Dougall.
Process and apparatus for treating fatty bodies and the matters producing them;—applicable to the treating other substances; process and apparatus for the application of such products.	11,550	28th Jan. 1847	Pierre Armand le Comte de Fontainemoreau.
Manufacture of oil from certain nuts; producing a vegetable substance; application thereof for giving light, and for other uses [ <i>obtaining stearine from Brazil nuts, for making candles</i> ].	11,774	3rd July 1847	Joseph Brown Wilks.
Treating and manufacturing certain fatty or oily matters.	12,040	25th Jan. 1848	George Fergusson Wilson.
Melting fats - - - - -	12,077	28th Feb. 1848	William Palmer.
Process of and apparatus for treating fatty bodies; application of the products to useful purposes [ <i>obtaining oil for manufacturing candles</i> ].	12,342	25th Nov. 1848	Pierre Armand le Comte de Fontainemoreau.
Manufacture or preparation of oleic acid for the production of light - - - - -	12,390	28th Dec. 1848	{ George Fergusson Wilson. Charles Humfrey.
Treating peat and obtaining products therefrom for making candles [ <i>paraffine</i> ].	12,436	23rd Jan. 1849	Rees Reece.
Separating the more liquid from the more solid parts of fatty and oily matters; separating the same from foreign matters [ <i>by employment of an hydro-extractor</i> ].	12,501	28th Feb. 1849	George Fergusson Wilson.
Apparatus for distilling fatty and oily matters -	12,733	1st Aug. 1849	David Clovis Knab.
Treating fatty and oily matters; application of the products of fatty and oily matters.	13,056	23rd April 1850	Charles Humfrey.
Treating fatty and oleaginous bodies; manufacture and application of such bodies, their compounds and subsidiary products, with the apparatus to be employed therein; also their application to new and other purposes - - - - -	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Extracting fatty matters and oily matters - -	13,636	19th May 1851	Hugh Barclay.
Presses and matting; process of and apparatus for treating fatty and oily matters - - - - -	13,795	3rd Nov. 1851	{ George Fergusson Wilson. David Wilson. James Childs. John Jackson.
Process and apparatus for treating fatty or oleaginous matters.	13,830	22nd Nov. 1851	William Armand Gilbee.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CANDLE MANUFACTURE, &amp;c.—continued.</b>			
Preparation of compounds to be used for rendering waterproof and fireproof, woven and textile fabrics, paper, leather, wood, or other materials or substances; also machinery employed therein [ <i>and an arrangement of apparatus for impregnating fatty and oily matters with a stream of oxygen gas, and separating their impurities</i> ].	13,886	31st Dec. 1851	Robert Beck Froggart.
Treating fatty and oily matters - - - -	13,887	31st Dec. 1851	{ George Gwynne. George Fergusson Wilson.
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<b>II.—Making Candles and Night-lights.</b>			
Making candles, tapers, links, and torches, with oil and other things - - - - - }	124	8th Feb. 1640	{ Mathias Burges. Thomas Barber. Smith Wilkinson.
Making candles of spermaceti - - - -	966	10th Aug. 1770	Daniel Bridges.
Luminators or a new kind of lights, being an improvement on all sorts of candles except dipped tallow, and is also an improvement in flambeaux and on candle-moulds, socket-stands, and other appurtenances.	1587	1st Feb. 1787	John Donaldson.
Making tallow, fat, spermaceti, and wax, into candles.	2108	24th May 1796	Joseph Stacey Sampson.
Form, quality, and use of candles and other lights made of tallow, wax, spermaceti, or other inflammable substance.	2343	26th Sept. 1799	William Bolts.
Making candles of wax, spermaceti, tallow, or other solid inflammable substance.	2468	23rd April 1801	Thomas Binns.
Making candles of wax, spermaceti, and tallow -	2884	22nd Oct. 1805	{ Daniel Desormeaux. Samuel Hutchings.
Preserving candles in hot climates - - - -	3525	23rd Jan. 1812	Richard Rowland.
Candles to be burnt in a new kind of lamp or candlestick.	3572	2nd June 1812	Leger Didot.
Illuminating apartments and other places by the combination of tallow or other inflammable materials.	3852	10th Nov. 1814	Leger Didot.
Making candles - - - - -	3970	27th Dec. 1814	John White.
Construction of candles [ <i>made of cocoa-nut oil or palm oil</i> ].	4621	27th Nov. 1821	Thomas Motley.
Preparation of a material produced from a vegetable substance, and its application for the purpose of affording light, and for other uses [ <i>manufacture of candles from cocoa-nut oil</i> ].	5842	9th Sept. 1829	James Soames, junior.
Manufacturing candles - - - - -	5668	26th Jan. 1830	Thomas Bulkeley.
Manufacture of candles - - - - -	5896	4th Feb. 1830	Charles Taverner Miller.
Making candles - - - - -	5979	10th Aug. 1830	William Palmer.
Extraction of oleaginous matter from a certain foreign vegetable kernel; application of same to the making candles and other articles of commerce [ <i>palm-nut</i> ].	6256	13th April 1832	John Demeur.
Making candles - - - - -	6314	29th Sept. 1832	William Palmer.
Apparatus used in the manufacture of mould-candles	6610	22nd May 1834	Joseph Morgan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CANDLE MANUFACTURE, &amp;c.—continued.</b>			
Machinery for manufacturing candles - - -	7400	25th July 1837	Joseph Henry Tuck.
Manufacture of candles - - - - -	7758	2nd Aug. 1838	Edwin Whele.
Manufacture of candles - - - - -	8084	1st June 1839	William Palmer.
Manufacture of candles - - - - -	8423	10th March 1840	George Gwynne.
Manufacture of candles - - - - -	8445	25th March 1840	William Palmer.
Manufacture of candles, and means of consuming tallow and other substances for the purpose of light.	8481	23rd April 1840	Francis Molineux.
Manufacture of candles - - - - -	8681	5th Nov. 1840	George Gwynne.
Manufacture of candles - - - - -	9146	9th Nov. 1841	William Palmer.
Manufacturing candles - - - - -	9324	15th April 1842	Charles Farina.
Manufacture of candles; apparatus connected therewith.	9342	9th May 1842	Francis Prime Walker.
Manufacture of candles [ <i>with platted wicks, which are combined with braid, cord, or yarn, to prevent guttering</i> ].	9375	1st June 1842	William Henry Kempton.
Machinery for manufacturing candles - - -	9462	8th Sept. 1842	Joseph Henry Tuck.
Manufacture of candles - - - - -	9555	15th Dec. 1842	William Palmer.
Manufacture of candles - - - - -	9602	26th Jan. 1843	William Palmer.
Manufacture of candles - - - - -	9627	11th Feb. 1843	Joseph Morgan.
Manufacture of dip and mould candles - - -	9634	17th Feb. 1843	{ George Ebenezer Doudney. Edward Phillips Doudney.
Manufacture of candles - - - - -	9696	11th April 1843	William Tindall.
Making candles - - - - -	9738	25th May 1843	George Johnson.
Preparation of a material produced from a vegetable substance [ <i>separating the solid from the fluid parts of cocoa-nut oil, for use in candle-making</i> ] - - -	9878	24th Aug. 1843	{ William Wilson. John Studholme Brown- rigg. John Cockerell. Sir George Gerard de Hockepied Larpent.
Manufacture of dip-candles - - - - -	9897	5th Oct. 1843	Charles Brown.
Manufacture of candles - - - - -	9944	16th Nov. 1843	{ George Gwynne. George Fergusson Wilson.
Manufacture of candles - - - - -	9959	24th Nov. 1843	James Connell.
Manufacture of candles - - - - -	10,000	28th Dec. 1843	{ George Gwynne. George Fergusson Wilson.
Night-lights, and apparatus used therewith - - -	10,029	30th Jan. 1844	George Miller Clarke.
Manufacture of candles - - - - -	10,184	15th May 1844	William Palmer.
Manufacture of candles - - - - -	10,191	20th May 1844	{ George Gwynne. George Fergusson Wilson.
Manufacturing candles [ <i>application of borate of ammonia to the wicks, to prevent the necessity of snuffing</i> ].	10,268	24th July 1844	Charles Humfrey.
Manufacture of candles - - - - -	10,294	29th Aug. 1844	James Pillans Wilson.
Manufacture of candles - - - - -	10,308	9th Sept. 1844	James Pillans Wilson.
Manufacture of candles - - - - -	10,312	12th Sept. 1844	James Power.
Manufacture of night-lights - - - - -	10,365	29th Oct. 1844	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson.
Manufacture of candles - - - - -	10,371	31st Oct. 1844	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CANDLE MANUFACTURE, &amp;c.—continued.</b>			
Manufacture of candles - - - - -	10,435	12th Dec. 1844	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson.
Manufacture of candles - - - - -	10,438	18th Dec. 1844	Ralph Knowles Waller.
Manufacture of candles when palm oil is used -	10,551	13th March 1845	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson.
Manufacture of candles - - - - -	10,598	7th April 1845	Dominic Frick Albert.
Manufacture of candles - - - - -	10,664	10th May 1845	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson.
Manufacture of candles - - - - -	10,695	3rd June 1845	William Palmer.
Manufacture of candles; preventing them from guttering whilst burning.	10,754	3rd July 1845	Lemuel Goddard.
Manufacture of candles - - - - -	10,899	27th Oct. 1845	Samuel Childs.
Manufacture of candles - - - - -	11,008	20th Dec. 1845	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>pressing and consolidating candles</i> ].	11,149	25th March 1846	Charles Smith.
Candles - - - - -	11,284	6th July 1846	William M'Gary.
Manufacture of candles; preparing and combining animal, vegetable, and mineral substances applicable to the purpose, and for other uses.	11,350	25th Aug. 1846	Alexander Parkes.
Manufacturing candles and night-lights - -	11,470	1st Dec. 1846	{ George Fergusson Wilson. John Jackson.
Manufacture of candles; also preparing and combining animal, vegetable, and mineral substances applicable to the manufacture of candles, and to other uses [ <i>castor-oil in combination with tallow or lard, or with other oils</i> ].	11,656	15th April 1847	Samuel Childs.
Making, forming, or shaping candles - - -	11,690	4th May 1847	Fennell Allman.
Manufacture of candles;—partly applicable to other substances capable of being moulded.	11,908	14th Oct. 1847	Joseph Maudslay.
Manufacture of candles and other like articles for affording light.	11,995	15th Dec. 1847	David Williams Wire.
Manufacture of candles and night-lights - -	12,040	25th Jan. 1848	George Fergusson Wilson.
Manufacture of candles - - - - -	12,077	28th Feb. 1848	William Palmer.
Manufacture of candles - - - - -	12,365	9th Dec. 1848	William Palmer.
Treating peat and obtaining products therefrom [ <i>candles</i> ].	12,436	23rd Jan. 1849	Rees Reece.
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [ <i>argand candle</i> ].	12,491	28th Feb. 1849	Henry Crosley.
Manufacture of candles and night-lights - -	12,512	14th March 1849	George Fergusson Wilson.
Manufacture of candles and night-lights - -	12,564	16th April 1849	James Childs.
Lighting [ <i>candles</i> ] - - - - -	12,692	4th July 1849	William Bush.
Manufacture of candles; machinery for manufacturing the same.	12,825	2nd Nov. 1849	Frederick Octavius Palmer.
Manufacture of candles - - - - -	12,910	29th Dec. 1849	William Palmer.
Manufacture of candles; apparatus for the purpose.	13,003	11th March 1850	William Crane Wilkins.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CANDLE MANUFACTURE, &amp;c.—continued.</b>			
Manufacture of candles - - - - -	13,011	23rd March 1850	William Sykes.
Manufacture of candles - - - - -	13,056	23rd April 1850	Charles Humfrey.
Manufacture of candles; machinery applicable to such matters.	13,078	22nd May 1850	William Palmer.
Machinery for placing splints of wood, and wax and composition tapers, in frames for dipping.	13,206	31st July 1850	John Hynam.
Manufacture of candles and night-lights - -	13,329	9th Nov. 1850	William Palmer.
Manufacture of candles - - - - -	13,636	19th May 1851	Hugh Barclay.
Manufacture of candles, night-lights, and mortars -	13,696	22nd July 1851	Arthur Field.
Manufacture of candles and night-lights - -	13,795	3rd Nov. 1851	{ George Fergusson Wilson. David Wilson. James Childs. John Jackson.
Manufacture of candles and other such articles -	13,830	22nd Nov. 1851	William Armand Moreau Gilbee.
Manufacture of candles and night-lights - -	13,887	31st Dec. 1851	{ George Gwynne. George Fergusson Wilson.
Manufacture of candles - - - - -	13,901	20th Jan. 1852	Henry Graham Wagstaff.
Manufacture of candles, and machinery employed therein.	14,053	2nd April 1852	William Earnshaw Cooper.
Manufacture of wax candles - - - - -	14,107	1st May 1852	Thomas Mosdell Smith.
Manufacture of candles - - - - -	14,186	24th June 1852	{ Joseph Morgan. Peter Gaskell.
Manufacture of night-lights or mortars - - -	14,215	8th July 1852	{ Warren Stormes Hale. George Roberts.
Manufacture of candles; packing candles and night-lights.	14,264	19th Aug. 1852	William Palmer.
<b>III.—Wicks for Candles and Lamps.</b>			
Machine for cleaning, spreading, twisting, and cutting cotton, and making wicks for candles.	1619	11th Aug. 1787	William Cooper.
Machine for preparing and cutting cotton and linen candle-wicks.	3285	9th Dec. 1809	John Jones.
Machine and rods for cutting, spreading, and preparing wicks for dip-candles.	3517	20th Jan. 1812	John Taylor.
Engine for cutting, twisting, and spreading wicks for candles.	4677	4th June 1822	Henry Colebank.
Applying cotton and other wicks to tallow and other like substances used for candles.	8185	20th July 1839	Joshua Crockford.
Instruments for the cutting of cotton or the wicks of lamps.	8285	25th Nov. 1839	James Matley.
Manufacture of wicks for candles, lamps, and other similar purposes;—apparatus connected therewith.	9074	8th Sept. 1841	Nathaniel Card.
Manufacture of candle-wick; machinery for producing such manufacture.	9590	14th Jan. 1843	Nathaniel Card.
Manufacture of candles [candle-wicks] - - -	9627	11th Feb. 1843	Joseph Morgan.
Machinery for preparing wicks used in the making of candles.	9689	6th April 1843	Edwin Whele.
Manufacturing candle-wicks - - - - -	9959	24th Nov. 1843	James Connell.
Manufacture of wicks for candles and lamps - -	10,184	15th May 1844	William Palmer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CANDLE MANUFACTURE, &amp;c.—continued.</b>			
Manufacture of platted wicks - - - -	10,438	18th Dec. 1844	Ralph Knowles Waller.
Wicks - - - - -	10,533	24th Feb. 1845	John Baptiste Valluri.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>forming wicks with capillary tubes</i> ].	11,149	25th March 1846	Charles Smith.
Wicks - - - - -	12,305	2nd Nov. 1848	Richard Bright.
Manufacture of wicks - - - - -	12,810	29th Dec. 1849	William Palmer.
Manufacture of wicks - - - - -	13,011	23rd March 1850	William Sykes.
Manufacture of candle-wicks - - - -	13,050	20th April 1850	Peter Aikell.
Manufacture of candle-wicks; machinery applicable to such matters.	13,078	22nd May 1850	William Palmer.
Manufacture of candle-wicks; machinery or apparatus employed therein.	14,053	2nd April 1852	William Earnshaw Cooper.
Manufacture of wax candles [ <i>employing platted wicks</i> ].	14,107	1st May 1852	Thomas Mosdell Smith.
Manufacture of candles [ <i>attaching loops to candle-wicks</i> ] - - - - -	14,188	24th June 1852	{ Joseph Morgan. Peter Gaskell.
Manufacture of candles; packing candles and night-lights [ <i>applying alkaline salts to candle-wicks</i> ].	14,204	19th Aug. 1852	William Palmer.
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<b>CASKS AND BARRELS—</b>			
<b>Making, cleansing, &amp;c.—Making Staves and Hoops.</b>			
Loading casks of all sorts - - - -	384	21st June 1699	Edmund Heming.
Casks and implements for retaining malt and other liquors.	2196	31st Oct. 1797	Joseph Bramah.
Vessel or barrel for the safe carriage and conveyance of gunpowder.	2658	13th Nov. 1802	Henry Smith.
Seasoning and purifying casks - - - -	2773	19th June 1804	Timothy Bentley.
Machine or vessel for the safe conveyance of gunpowder, and for its preservation from injury by damp.	3373	7th Sept. 1810	James Walker.
Manufacturing casks and other vessels, by machinery - - - - -	3408	6th March 1811	{ John Plaskett. Samuel Brown.
Manufacture of barrels and other packages made of iron and other metals.	3858	10th Dec. 1814	Robert Dickinson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CASKS AND BARRELS—continued.</b>			
Apparatus for and method of so constructing and securing brewers' vats or store-casks, as to prevent the vats falling to pieces or ever breaking, though every one of the hoops should be broken asunder, and consequently preventing any beer being lost; also preventing loss of beer, even when all the cocks of the vat are broken off.	3867	20th Dec. 1814	John Vallance.
Hoop, or hooping of barrels - - - - -	3870	19th Dec. 1815	Robert Dickinson.
Manufacturing metallic tubes, cylinders, cones, or other forms adapted to and for the construction of casks, or for other purposes to which they may be applicable.	4844	5th Feb. 1822	Robert Bill.
Manufacture and construction of metal casks or barrels, for the conveyance of goods by sea or otherwise.	5008	7th Oct. 1824	Robert Dickinson.
Machinery for making casks and other vessels -	5282	8th Nov. 1825	Samuel Brown.
Formation, coating, and covering of vessels or packages for containing, preserving, conveying, and transporting liquids or solids.	5426	8th Dec. 1826	Robert Dickinson.
Making and forming iron for hoops of casks, and for other purposes - - - - -	6580	20th March 1834	{ Henry Crane. John Young.
Machinery for cutting wood and other materials [for making casks, &c.] - - - - -	6752	27th Jan. 1835	{ Joseph Gibbs. Joseph Gatley.
Machinery for forming staves for barrels, casks, and for other purposes.	7146	13th July 1836	Miles Berry.
Making casks and other vessels of iron and other metals.	9348	21st Jan. 1840	Samuel Brown.
Manufacture of metallic casks or vessels - - -	9045	11th Aug. 1841	Samuel Brown.
Construction of casks - - - - -	9740	25th May 1843	Sarah Beadon.
Manufacture of casks and other vessels - - -	9792	17th June 1843	Samuel Brown.
Cleansing, purifying, and sweetening casks, vats, and other vessels - - - - -	9924	2nd Nov. 1843	{ Robert Davison. William Symington.
Construction of casks, barrels, or other vessels for containing wine, beer, and fermented or other liquors liable to fermentation or decomposition from exposure to the atmosphere.	10,419	7th Dec. 1844	John Ryan.
Machinery for manufacturing barrels and other vessels of capacity.	11,391	2nd Oct. 1846	William Wild.
Manufacture of casks and other wooden vessels; machinery for cutting wood for that and other purposes.	11,761	19th June 1847	James Robertson.
Vessels of capacity employed in the stowing and conveyance of explosive substances [a powder magazine surrounded with water flowing between it and an outer case].	12,122	15th April 1848	Henry Henson Henson.
Manufacture of casks and other wooden vessels; machinery for cutting wood for these purposes.	12,225	29th July 1848	James Robertson.
Manufacture of casks and other similar vessels of wood.	12,233	8th Aug. 1848	Moses Poole.
Sawing, cutting, and shaping wood [staves of casks or barrels, and making casks] - - - - -	13,000	7th March 1850	{ Frederick Rosenborg. Conrad Montgomery.
Manufacture of metallic casks and vessels - - -	13,180	17th July 1850	Henrietta Brown.
Manufacture of metallic casks - - - - -	13,328	7th Nov. 1850	John Clare, junior.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CASKS AND BARRELS—continued.</b>			
Manufacture of casks, barrels, and other like articles; machinery employed therein.	18,687	5th July 1851	Frederick Rosenborg.
Machinery or apparatus for obtaining motive-power [hooping barrels and casks by the pressure of steam and water].	18,779	17th Oct. 1851	Richard Roberts.
Manufacture of casks - - - - -	18,925	27th Jan. 1852	{ George Duncan. Arthur Hutton.
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<b>CASTING.</b>			
<b>I.—Metals.</b>			
Making iron ore into cast works and bars with sea-coal and pit-coal - - - - -	38	20th March 1627	{ William Astell. John Copley. Francis Crofts.
Melting metals for casting ordnance - - - - -	63	25th June 1635	Captain Thornesse Francke.
Casting and founding iron, steel, or other metals, with a fire of sea-coal, pit-coal, or stone-coal, without charking or mixing the same with charcoal, or by use of any other fuel except wood or fuel made from wood.	91	22nd April 1636	Sir Phillibert Vernatt, Knt.
Melting and casting copper into ingots, so as to make it tough.	98	6th July 1636	George Danby.
Casting seals - - - - -	112	7th Dec. 1637	Joseph Jackson.
Casting iron and other metals with turf and peat charked.	170	30th May 1673	Sir Nicholas Stanning.
Casting brass into plates, ingots, rods, kettles, and other utensils, in metal moulds instead of pots -	495	3rd Feb. 1728	{ Benjamin Lund. Francis Hawkabee.
Casting iron from the iron stone or ore, and approaching nearer to the toughness and malleability of forged iron.	637	24th Sept. 1748	Malachi Postlethwayt.
Casting iron and other metal plates for covering houses and other buildings, such plates being superior to tiles, slate, or lead.	1392	25th Oct. 1783	Robert Ransome.
Casting metallic and other bodies, together or separately, in moulds, in a fluid state.	3197	28th Jan. 1809	Anthony George Eckhardt.
Making and working a manufacture for applying the method of casting metallic substances into various forms, with improved closeness and soundness in texture.	4371	15th May 1819	James Hollingrake.
Apparatus used in casting iron and other metals -	4953	15th May 1824	William Church.
Casting steel - - - - -	5003	7th Oct. 1824	Francis Henry William Needham.
Obtaining castings in gold, silver, and albata - -	7708	27th June 1838	Daniel Beckham.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CASTING—continued.</b>			
Melting of iron - - - - -	9664	16th March 1843	Angier March Perkins.
Construction and manufacture of wheels; machinery connected therewith [ <i>forming moulds in sand for casting wheels</i> ].	10,073	24th Feb. 1844	Peter Rothwell Jackson.
Casting brass; apparatus for making pots used in such process.	10,524	17th Feb. 1845	James Graham.
Moulding iron - - - - -	10,997	10th Dec. 1845	{ William Mushet. Robert Mushet.
Patterns used in casting; casting metals - -	11,030	9th Jan. 1846	Joseph Douglas.
Moulding iron and brass - - - - -	11,296	14th July 1846	David Yoolow Stewart.
Forming moulds for casting metal - - - -	11,664	20th April 1847	Samuel Kenrick.
Moulding; manufacture of certain articles of cast iron.	11,738	10th June 1847	William Darling.
Casting in metal and certain other materials - -	12,306	2nd Nov. 1848	John Harris.
Formation of moulds and cores of moulds for casting iron and other substances.	12,397	30th Dec. 1848	William Gilmour Wilson.
Manufacture of moulds and cores for casting iron and other substances.	12,402	4th Jan. 1849	David Yoolow Stewart.
Mode of giving form to certain metals when in a fluid or molten state.	12,509	14th March 1849	Andrew Shanks.
Manufacture of metal castings - - - - -	12,537	26th March 1849	David Henderson.
Constructing and applying models for moulding } machinery used in preparing for spinning, prepara- } tory to casting parts of such machinery - - }	13,208	31st July 1850	{ Peter Fairbairn. John Hetherington.
Moulding iron and other metals - - - - -	13,395	24th Oct. 1850	Alexander Dixon.
Construction of the permanent way of railways } [ <i>method of casting or forming the chairs and other</i> <i>metallic portions of railways</i> ]. }	13,500	10th Feb. 1851	Richard Stuart Norris.
<b>II.—Cylinders, Rollers, Pipes, and Worms.</b>			
Casting worms for alembics and stills, and other uses in tin, and copper.	240	16th Sept. 1684	John Skin.
Casting cylinders, pipes, sugar-rolls, and such-like instruments.	723	21st April 1738	Isaac Wilkinson.
Machinery and process of making metallic rollers, pipes, cylinders, and certain other articles.	4942	15th April 1824	Thomas Gethen.
Casting cylinders, tubes, and other articles of iron, copper, and other metals [ <i>in vacuo</i> ].	5084	18th Jan. 1825	William Church.
Moulding iron and brass [ <i>forming moulds for casting cylinders and pipes of iron and brass</i> ].	11,296	14th July 1846	David Yoolow Stewart.
Manufacture of moulds and cores for casting iron and other substances [ <i>for casting tubes</i> ].	12,402	4th Jan. 1849	David Yoolow Stewart.
Mode of giving form to certain metals when in a fluid or molten state [ <i>casting metal tubes</i> ].	12,509	14th March 1849	Andrew Shanks.
Moulding for the purpose of casting pipes, railings, gates, agricultural implements, and other metallic articles; also preparing patterns or models for the same - - - - -	13,499	10th Feb. 1851	{ Peter Fairbairn. John Hetherington.
Moulding, casting, ornamenting, and finishing articles and surfaces - - - - -	18,791	29th Oct. 1851	{ William Adolphus Biddell. Thomas Green.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CASTING—continued.</b>			
Manufacture of metallic fences, applicable to verandahs, truss-frames for bridges, and to other analogous manufactures [ <i>casting</i> ].	14,252	7th Aug. 1852	Alfred Vincent Newton.
<b>III.—Metallic Roofing and Sash-frames.</b>			
Casting lead to be used for milling, for the covering of churches or other buildings.	651	13th Dec. 1749	Sir James Creed, Knt.
Casting and working into frames, a composition, instead of wood, iron, brass, and copper, for sash and other frames.	1091	14th Dec. 1774	Francis Underwood.
Making and casting iron and other metal plates for covering houses and other buildings, such plates being superior to tiles, slate, or lead.	1392	25th Oct. 1783	Robert Ransome.
Casting iron roofs for buildings - - - -	3277	21st Nov. 1809	John Cragg.
<b>IV.—Pots and Vessels.</b>			
Casting iron-bellied pots and other iron-bellied ware	380	18th April 1707	William Darby.
Casting oval-bellied cast-iron pots, and pots and saucepans, with a bead or rim round the top.	1232	10th Aug. 1779	Jonathan Taylor.
Casting certain kinds of cast-iron vessels - -	4333	15th Jan. 1819	William Hazledine.
<b>V.—Type-founding.</b>			
Casting cases in metal for holding printing-types for printing on silk, leather, paper, and parchment, together with raised letters for signs and inscriptions - - - -	999	6th Nov. 1771	{ Isaac Moore. William Pine.
Casting and moulding types for composing and printing with words, sentences, and syllables, instead of single letters.	1266	16th Oct. 1778	Henry Johnson.
Machine for casting or founding types, letters, and ornaments used in printing.	2931	29th April 1806	Anthony Francis Berte.
Machine for founding types, letters, spaces, and quadrats, used in printing.	2979	23rd Oct. 1806	Elihu White.
Casting printers' types, sorts, and other articles of metal.	3033	15th April 1807	Anthony Francis Berte.
Machine for casting printing-types - - -	3194	23rd Jan. 1809	John Peek.
Register belonging to a mould for casting types -	3439	27th April 1811	William Caslon.
Casting and fixing at the same time metallic types on the surfaces of cylinders or rollers, blocks or plates of metal or having metallic surfaces, for the purpose of printing patterns in cloth made of cotton or linen, or both.	3897	14th March 1815	Jonathan Ridgway.
Casting stereotype or other plates for printing -	4249	23rd April 1818	Augustus Applegath.
Apparatus for printing [ <i>casting type</i> ] - - -	4664	21st March 1822	William Church.
Apparatus for printing, to be used by type, block, or plate printers [ <i>casting type</i> ].	4760	18th Feb. 1823	William Church.
Machinery for casting metal types - - -	4826	5th Aug. 1823	Louis John Pouchec.
Machinery for casting types - - - -	4850	9th Oct. 1823	{ John Hensfrey. Augustus Applegath.
Mechanical type-caster - - - -	5658	22nd May 1828	Thomas Aspinwall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CASTING—continued.</b>			
Machinery for casting printing-types, spaces, and quadrats; means of breaking off and counting the same.	7585	8th March 1838	Henry Bessemer.
Casting for printing purposes - - - -	8159	20th July 1839	Moses Poole.
Casting type for printing - - - -	8172	1st Aug. 1839	Louis François Feuillet.
Casting and constructing type for printing - -	9802	26th June 1843	John Duncan.
Casting printing-types and other similar raised surfaces; casting quadrats and spaces.	12,372	16th Dec. 1848	Alfred Vincent Newton.
Casting type - - - -	13,058	23rd April 1850	William Edward Newton.
[See also "TYPE." "GLASS." "WEAPONS." "HINGES." "NAILS."]			
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<b>CHAINS AND CHAIN-CABLES.</b>			
Making iron chains for mooring ships - - -	74	12th Sept. 1634	Phillip White.
Link for chains; making a mooring-chain, ship cable-chain, watch-chain, or any other chain, by uniting such links together, which can be lengthened or shortened by adding or taking away such links, without cutting or breaking them.	1823	13th Aug. 1791	Colin Mackenzie.
Constructing and making chains for mines and other purposes.	2776	2nd July 1804	William Hawks.
Construction and manufacture of iron and other chains.	3652	24th Feb. 1813	Joseph Smith.
Manufacture of chain-cables or moorings - -	3671	26th March 1813	Thomas Brunton.
Endless chain, with appendages - - - -	3686	28th April 1813	Thomas Mead.
Chain manufactured in a particular manner by a new process; apparatus and improvements in performing and executing the same - - -	4090	19th Dec. 1816	{ Samuel Brown. Philip Thomas.
Manufacturing chains and chain-cables, and forming the materials for the purpose - - -	4499	16th Oct. 1820	{ William Acraman. Daniel Wade Acraman.
Chain of a novel construction - - - -	4658	12th March 1822	James Gladstone.
Manufacture of chains ("Mathematical chains") [bars connected into a chain for the erection of a firm bridge].	4688	4th July 1822	George Smart.
Chain suitable for ships' cables and for other purposes.	4699	29th Aug. 1822	Thomas Sowerby.
Preparation of iron for manufacturing chains and chain-cables - - - -	4774	12th April 1822	{ Daniel Wade Acraman. Philip Piper.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CHAINS AND CHAIN-CABLES—continued.</b>			
Apparatus for stoppering and securing chain-cables.	5660	3rd June 1828	James Moffat.
Constructing ships' cable and hawser chains, made stouter at the ends than in the middle, to give strength.	5672	10th July 1822	John Hawks.
Making or manufacturing bolts and chains - - -	5929	24th April 1830	Samuel Brown.
Apparatus for checking or stopping chain-cables; —applicable to other purposes.	6138	13th July 1831	William Batten.
Machinery for manufacturing iron and other metal chain-links and other articles - - - - }	6323	22nd Oct. 1832	{ Alexander Stocker. William Southwood Stocker.
Manufacture of wrought iron chains, applicable to various purposes.	6400	23rd March 1833	Joshua Horton.
Construction of suspension chains for bridges, viaducts, aqueducts, and other purposes.	7120	17th June 1836	James Dredge.
Flat pit-chains - - - - -	7166	11th Aug. 1836	Henry Pershouse Parkes.
Construction of chains; machinery for making such chains.	7261	21st Dec. 1836	Andrew Smith.
Apparatus for retarding and stopping chain or other cables or ropes, on board ships or vessels.	7379	23rd May 1837	Baron Henry de Bode.
Making chains for pits, shafts, mines, or for other purposes - - - - - }	7997	6th March 1839	{ Thomas Horton. Thomas Smith.
Constructing chains for suspension-bridges, cables, mining and other purposes, and making the bars, links, and bolts thereof.	7999	12th March 1839	Job Cutler.
Improvements applicable to the construction or manufacture of links for chains and rings; machinery for effecting such manufacture.	8114	18th June 1839	John Wright.
Manufacture of chains - - - - -	9155	11th Nov. 1841	John Onions.
Apparatus for securing chains - - - - -	9511	1st July 1843	James John Greer.
Tackle and apparatus for working and using chain-cables in ships and other vessels.	9866	16th Aug. 1843	James Brown.
Manufacture of iron and steel chains - - -	10,038	8th Feb. 1844	{ Thomas Southall. Charles Crudgington.
Making or manufacturing links for the construction of flat chains used for mining and other purposes - - - - - }	10,050	13th Feb. 1844	{ Job Haines. Richard Haines.
Manufacture of metal chains for mining and other purposes.	10,058	17th Feb. 1844	William Losh.
Manufacture of flat pit-chains - - - - -	10,101	14th March 1844	Henry Pershouse Parkes.
Manufacturing certain descriptions of chains - -	10,417	4th Dec. 1844	Benjamin Seebohm.
Manufacture of chains - - - - -	10,468	16th Jan. 1845	Edwin Lucas.
Machine for flattening and turning iron links for flat wood stub-chains.	11,589	24th Feb. 1847	William Bayliss.
Constructing chains for vertical roasting-jacks, applicable to other chains; and partly applicable to other purposes.	12,548	28th March 1849	John Britton.
Means to ascertain the strength of chains and ships' cables.	12,933	17th Jan. 1850	William George Henry Taunton.
Improvements partly applicable to the connecting links or chains of railway carriages, and to other purposes where tension combined with a certain degree of elasticity is required.	12,953	29th Jan. 1850	Francis Edward Colegrave.
Manufacture of chains - - - - -	13,817	15th Nov. 1851	Antoine Dominique Sisco.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CHEMICAL SALTS, COMPOSITIONS, GASES, AND PROCESSES.</b>			
<b>I.—Alkaline Salts and Oxydes.</b>			
<i>(Salts of Soda, Potash, and Ammonia; also Cyanogen and its Compounds.)</i>			
Extracting and calcining the lixivate salts of ashes of wood and other vegetables.	484	21st July 1726	William Hinton.
Method of making a drug called sal-ammoniac, of greater purity than any hitherto imported from foreign parts.	641	23rd Feb. 1749	William Sedgwick.
Making glauber salts - - - - -	1222	30th April 1779	Alexander Fordyce.
Method of applying the heat arising from ovens in which coke is burnt or made, to the exsiccation of crystalline solutions, the sublimation of sal-ammoniac, and a variety of other purposes.	1632	18th Oct. 1791	William Stone.
Method or process of making and manufacturing sal-ammoniac and glauber and other salts for all commercial purposes.	1696	5th July 1792	William Menish.
Preparing the neutral salts obtained from barilla and kelp.	2714	18th June 1803	Thomas Newstead.
Manufacture of sal-ammoniac - - - - -	3065	28th July 1807	Joseph Astley.
Separating alkaline salt from the acid as it exists in kelp, black ashes, and soapers' salts, spent lees, and other like articles.	3990	8th Oct. 1810	George Hodson.
Preparing and manufacturing alkaline salts from vegetables the growth of Great Britain and Ireland.	3547	14th March 1812	Archibald Earl of Dundonald.
Procuring or preparing sulphate of soda, and soda, sub-carbonate of soda, and muriatic acid.	4357	3rd April 1819	Henry Peter Fuller.
Manufacturing prussiates of potash and soda; construction of machinery used in the said manufacture - - - - -	6247	22nd March 1832	{ William Alexander Brown. Herman Hendriks.
Manufacturing prussiate of potash and prussiate of soda.	6492	19th Oct. 1833	Herman Hendriks.
Manufacturing sulphate of soda - - - - -	6846	4th June 1835	Richard Phillips.
Manufacture of prussiate of potash - - - - -	7150	27th July 1836	Peter Spence.
Manufacture of sulphate of soda - - - - -	7190	28th Sept. 1836	William Neale Clay.
Effecting the decomposition of muriate of soda or common salt [to obtain sulphate of soda or glauber salts].	7264	21st Dec. 1836	John Swindells.
Manufacture of prussiate of potash and prussiate of soda.	7275	11th Jan. 1837	John Paul Neumann.
Manufacture of carbonate of soda - - - - -	7277	11th Jan. 1837	Francis Gybbon Spilsbury.
Manufacture of sulphate of soda;—applicable to other purposes.	7365	8th May 1837	Thomas Bell.
Mode of extracting or obtaining ammoniacal salts from liquor produced in the manufacture of coal-gas - - - - -	7460	4th Nov. 1837	{ George Deakin Midgley. John Howard Kyan.
Decomposing muriate of soda or common salt [to obtain sulphate of soda].	7523	23rd Dec. 1837	William Losh.
Manufacture of the hydrate and carbonate of soda from the chloride of sodium;—applicable to the making of soap and glass, and for other useful purposes - - - - -	7538	11th Jan. 1838	{ Charles Watt. Thomas Rainforth Tebbutt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CHEMICAL SALTS, &amp;c.—continued.</b>			
Manufacture of carbonate of soda - - - -	7718	30th June 1838	{ Harrison Grey Dyar. John Hemming.
Decomposing muriate of soda for manufacturing valuable products [ <i>using zinc in making sulphate of soda</i> ].	7842	19th Jan. 1839	Oglethorpe Wakelin Barratt.
Manufacture of sulphate of soda - - - -	7998	8th March 1839	Edward Ford.
Apparatus for the manufacture of sulphate of soda -	8000	14th March 1839	Josias Christopher Gamble.
Manufacture of sulphate of soda - - - -	8038	16th April 1839	Lawrence Rowe.
Manufacture of prussiate of potash and prussiate of soda.	8036	16th April 1839	John Swindells.
Manufacture of sulphate of soda - - - -	8149	11th July 1839	Edouard François Duclos.
Reconverting the salts used in purifying gas; manufacture of ammoniacal salts.	8253	2nd Nov. 1839	Alexander Angus Croll.
Manufacture of carbonate of soda - - - -	8304	9th Dec. 1839	Moses Poole.
Manufacture of carbonates of potash and soda -	8356	21st Jan. 1840	William Hunt.
Manufacturing prussiate of potash and prussiate of soda.	8357	21st Jan. 1840	Miles Berry.
Process of manufacturing carbonate of soda - -	8389	25th Feb. 1840	John Wilson.
Manufacture of carbonate of soda - - - -	8413	4th March 1840	Joseph Bower.
Manufacture of sal-ammoniac - - - -	8608	27th Aug. 1840	Henry Waterton.
Production of carbonate of ammonia - - - -	8878	15th March 1841	Richard Laming.
Manufacture of carbonates of soda and potash -	8886	17th March 1841	William Thompson Clough.
Manufacture of carbonate of soda - - - -	8925	15th April 1841	{ Frank Hills. George Hills.
Manufacture of carbonate of soda - - - -	8973	27th May 1841	James Shanks.
Production of sal-ammoniac - - - -	9034	21st July 1841	Frederick Theodore Philippi.
Manufacture of salts of ammonia; apparatus for combining ammonia, carbonic acid and other gases, with liquids.	9156	11th Nov. 1841	James Young.
Manufacture of sulphate of soda - - - -	9310	31st March 1842	Julius Seybel.
Manufacture of borax - - - -	9734	22nd May 1843	Charles Maurice Elizee Sautter.
Purification and application of ammonia to obtain certain chemical products [ <i>cyanogen</i> ].	9832	13th July 1843	Richard Laming.
Making cyanogen and its compounds, particularly the prussiates of potash and soda.	9985	13th Dec. 1843	Alfred Vincent Newton.
Making carbonate of soda - - - -	10,002	1st Jan. 1844	Alexander Denoon.
Making muriate of ammonia - - - -	10,003	1st Jan. 1844	Alexander Denoon.
Manufacture of sulphate, muriate, and other salts of ammonia.	10,017	16th Jan. 1844	William Watson, junior.
Manufacturing salts of ammonia and compounds of cyanogen from a substance not before used for the purpose [ <i>muriate and sulphate of ammonia, prussiates of potash and soda, from guano</i> ].	10,097	11th March 1844	Wilton George Turner.
Manufacture of the compounds of ammonia - -	10,121	28th March 1844	William Pollard.
Manufacture of sulphate of soda - - - -	10,320	19th Sept. 1844	William Birkmyre.
Treating noxious vapours given off from chimneys, and from chemical and other works [ <i>in the manufacture of sulphate of soda</i> ].	10,519	10th Feb. 1845	Oglethorpe Wakelin Barratt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CHEMICAL SALTS, &amp;c.—continued.</b>			
Manufacture of carbonates of potash or soda; manufacture of the ferro-cyanates of potash or soda.	10,580	27th March 1845	Wilton George Turner.
Manufacturing compounds of cyanogen and ammonia, and the use or application in these manufactures of a substance or substances not hitherto so employed.	10,911	3rd Nov. 1845	Christopher Binks.
Making the cyanides and ferro-cyanides of potassium and sodium.	10,955	18th Nov. 1845	James Laming.
Treatment of the products of gas-works [for preparing salts of ammonia].	11,008	20th Dec. 1845	John Robert Johnson.
Manufacture of certain salts of soda - - -	11,279	6th July 1846	Peter Ward.
Methods of treating certain gases and manufacturing certain salts of potash, soda, and ammonia.	11,328	11th Aug. 1846	Frank Hills.
Decomposing certain acids, and applying the products resulting therefrom to the production of certain chemical compounds [making binoxalate of potash].	11,425	22nd Oct. 1846	James Thomas Jullion.
Application of processes used in making ink to the production of certain salts [iodide and bromide of potassium].	11,474	3rd Dec. 1846	Joseph Bancroft Reade.
Manufacture of certain alkaline salts - - -	11,555	1st Feb. 1847	Richard Albert Tilghman.
Manufacture of certain alkaline salts [sulphate, muriate, and chromate of potash].	11,556	1st Feb. 1847	Richard Albert Tilghman.
Manufacture of certain salts; apparatus applicable for the purpose [ammoniacal compounds; cyanogen] - - -	12,028	18th Jan. 1848	{ Charles Crane. James Thomas Jullion.
Treatment of certain mineral waters to obtain products therefrom; obtaining certain metals from certain compounds containing those metals; also obtaining other products by the use of certain compounds containing metals [obtaining stannate of soda and potash, also sulphate of soda].	12,497	28th Feb. 1849	Thomas Rowlandson.
Manufacture of sulphate of ammonia - - -	12,944	26th Jan. 1850	Thomas Richardson.
Improvements applicable in obtaining or in separating certain products or materials from gas-water, and other similar products [sal-ammoniac and sulphate of soda].	12,975	21st Feb. 1850	William Cormack.
Treating certain products resulting from the distillation of coal;—partly applicable to other similar purposes [obtaining sulphate and carbonate of ammonia, also prussiates of soda, potash, and ammonia] - - -	13,059	23rd April 1850	{ Richard Laming. Frederick John Evans.
Manufacture of sulphate of soda - - -	13,113	11th June 1850	Peter Armand le Comte de Fontainemoreau.
Process for obtaining carbonate of soda and carbonate of potash.	13,124	11th June 1850	Frederick Albert Gatty.
Manufacture of alkaline salts;—in part applicable in obtaining volatile liquids.	13,335	12th Nov. 1850	Peter Spence.
Manufacture of carbonates and oxydes of soda and potassa.	13,556	15th March 1851	Herbert Taylor.
Manufacture of carbonate of soda - - -	13,620	3rd May 1851	William Cooke.
Manufacture of oxalate of potash - - -	13,676	24th June 1851	George Jordan Firmin.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CHEMICAL SALTS, &amp;c.—continued.</b>			
Decomposition of saline and other substances, and separating their component parts, or some of them, from each other; forming certain compounds or combinations of substances [ <i>decomposing by electric agency, and forming hypochlorites and chlorates of alkalis and alkaline earths</i> ].	13,755	25th Sept. 1851	Charles Watt.
Treating sewage and obtaining products therefrom; combining such products with other matter [ <i>obtaining ammoniacal salts</i> ].	13,775	16th Oct. 1851	Richard Dover.
Manufacture of saline and metallic compounds [ <i>forming nitrates by the combination of ammonia with alkaline and earthy bases; making carbonate of soda</i> ].	13,958	3rd Feb. 1852	Peter Claussen.
Manufacture of coke, and application of the gaseous products arising therefrom to useful purposes [ <i>obtaining ammoniacal salts</i> ].	13,974	23rd Feb. 1852	William Edward Newton.
Treatment of metallic ores and certain salts and residuary matters, and obtaining products therefrom [ <i>carbonate of potash and soda</i> ].	13,987	23rd Feb. 1852	Samuel Boulton.
Treatment and application of slag, or the refuse matter of blast-furnaces [ <i>applying slag in the decomposition of salts of soda and potash</i> ].	14,013	8th March 1852	Alexander Cuninghame.
Obtaining salts of soda - - - - -	14,208	6th July 1852	William Septimus Losh.
Treatment of the residual products of gas, and of the distillation of coal or other similar substances, and of the coking of coal [ <i>obtaining sulphate of ammonia from cannel-coal</i> ].	14,280	12th Aug. 1852	Richard Laming.
Modes or means of producing or obtaining ammoniacal salts [ <i>sulphate of ammonia from the refuse liquors of gas-works</i> ].	14,312	30th Sept. 1852	William Hunt.
<b>II.—Earthy Salts and Oxydes (Magnesia, Barytes, &amp;c.)</b>			
1. ( <i>Alum.</i> )			
Making alum or alum glass for medical, surgical, metallic, and mineral improvements.	245	13th April 1685	Thomas Moor.
Making and setting vessels used in making alum and other things where large vessels are required.	409	14th Sept. 1716	William Ward.
Making alum from the dross or dregs of the liquor from which alum is made.	590	4th April 1743	Ambrose Newton.
Making alum from liquor made from copperas } materials and uncalcined ore - - - - }	831	18th June 1765	{ Peter Holme. Edward Cropper. James Nicholson. Robert Nicholson.
Extracting alum from lead-glitter, blue-stone, and iron ore.	1243	5th Feb. 1780	Matthew Sanderson.
Manufacturing alum from British barilla - - -	1246	4th March 1780	James King.
Making alum - - - - -	1863	29th March 1792	James Herring Robinson.
Preparing and obtaining alum, or sulphate or vitriol of argil, and other salts, saline matters, or substances, at the same time.	2015	4th Oct. 1794	Archibald Earl of Dundonald.
Manufacturing alum - - - - -	5665	12th June 1828	William Strachan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CHEMICAL SALTS, &amp;c.—continued.</b>			
Manufacturing alum - - - - -	8271	16th Nov. 1839	William Wiesmann.
Preparing and purifying alum, alumina, aluminous mordants, and other aluminous combinations and solutions, and the application thereof to purposes of manufacture.	8309	13th Dec. 1839	Robert Hervey.
Manufacture of alum - - - - -	9486	8th Oct. 1842	Wilton George Turner.
Treatment of alum rock, or shist; manufacture and application of the products derived therefrom.	9492	13th Oct. 1842	Peter Hagenbusch.
Manufacture of alum - - - - -	10,320	19th Sept. 1844	William Birkmyre.
Manufacture of alum and aluminous compounds from a new substance, and production of fire-clay from the residuum.	10,708	5th June 1845	Joseph Cliff.
Manufacture of alum - - - - -	10,970	27th Nov. 1845	Peter Spence.
Manufacture of alum - - - - -	12,541	28th March 1849	James Thomson Wilson.
Manufacture of alum - - - - -	12,944	26th Jan. 1850	Thomas Richardson.
Manufacture of alum;—in part applicable in obtaining volatile liquids.	13,335	12th Nov. 1850	Peter Spence.
Manufacture of alum - - - - -	13,339	7th Dec. 1850	James Thomson Wilson.
Manufacture of magnesia and some of its salts [ <i>also artificial alum</i> ].	13,909	23rd Jan. 1852	Thomas Richardson.
Treatment and application of slag, or the refuse matter of blast-furnaces [ <i>obtaining silica, alumina, and alum, from slag</i> ].	14,013	8th March 1852	Alexander Cuninghame.
Treatment of the residual products of gas, and of the distillation of coal or other similar substances, and of the coking of coal [ <i>obtaining sulphate of alumina from coke, by means of hot sulphuric acid</i> ].	14,260	12th Aug. 1852	Richard Laming.
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2. (Magnesia, Barytes, &c., and their Salts.)			
Manufacture of sulphate of magnesia, or Epsom salts.	4049	3rd Aug. 1816	William Henry.
Preparing or manufacturing a white sulphate from the impure native sulphate of barytes.	5258	29th Sept. 1825	William Duesbury.
Making sulphate of magnesia, or Epsom salts -	5683	11th Aug. 1828	William Grisenthwaite.
Manufacture of salacetecella - - - - -	7010	20th Feb. 1836	John Barsham.
Producing or making carbonate of barytes - -	7131	22nd June 1836	John Woolrich.
Improvements partly applicable to the manufacture of magnesia and its salts.	9102	24th Sept. 1841	Hugh Lee Pattinson.
Manufacture of Epsom salts, and carbonate of lime, called precipitated chalk;—in part applicable to other purposes.	10,520	10th Feb. 1845	John Brumwell Gregson.
Manufacture of certain salts of magnesia - -	11,279	6th July 1846	Peter Ward.
Manufacture of Epsom and other magnesian salts -	12,944	26th Jan. 1850	Thomas Richardson.
Blasting rocks, working marble and stone, and preparing products therefrom [ <i>obtaining sulphate of lime, formed in treating stone with muriatic acid</i> ].	13,344	14th Nov. 1850	Joseph Conrad Baron Liebhaf.
Manufacture of carbonates and oxydes of barytes and strontia, from the sulphates of barytes and strontia.	13,556	15th March 1851	Herbert Taylor.
Manufacture of magnesia and some of its salts [ <i>sulphate, carbonate, and chloride</i> ].	13,909	23rd Jan. 1852	Thomas Richardson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CHEMICAL SALTS, &amp;c.—continued.</b>			
<b>III.—Metallic Salts and Oxydes.</b>			
<b>1. (White and red Lead.)</b>			
Making white and red lead for painters - - -	22	5th Oct. 1622	Christopher Elland.
Making white and red lead, with litharge, or lead } out of which the silver is first extracted - - }	88	1st Dec. 1635	{ James Rosse. Alexander Roberts.
Separating silver from lead, and making litharge and red-lead of the lead when parted; performed in a close stove with sea-coals.	351	4th Sept. 1697	Robert Lydall.
Making white-lead - - - - -	951	13th Dec. 1749	Sir James Creed.
Making white-lead - - - - -	1281	26th Feb. 1781	James Turner.
Making white-lead - - - - -	1581	15th Jan. 1787	Richard Fishwick.
Preparation or substitute for ceruse or white-lead, minium or red-lead, calcined lead, or other similar preparation of lead, for glazing and enamelling earthenwares, porcelain and china wares; also useful in the making of glass and enamel.	2117	20th June 1796	James Keeling.
Making or preparing ceruse or white-lead - - -	2189	16th Aug. 1797	Archibald, Earl of Dun- donald.
Making ceruse or white-lead - - - - -	2321	18th June 1799	John Wilkinson.
Lead saccharum, for the use of calico-printers, and for other useful purposes.	2400	10th May 1800	John Whitton.
Preparing and making white-lead - - - - -	2461	30th Dec. 1800	Thomas Grace.
Making white-lead - - - - -	2758	14th May 1804	John Swift Saxelbye.
Manufacturing white-lead - - - - -	2927	3rd April 1806	James Keir.
Making white-lead - - - - -	3099	23rd Jan. 1808	Edward Moore Noble.
Setting blue-lead, for corroding the same into white- lead.	3190	17th Jan. 1809	John Brierley.
Manufacturing the pigment called white-lead - -	4211	27th Jan. 1818	George Frederick Hagner.
Manufacturing white-lead - - - - -	4524	3rd Jan. 1821	John Sadler.
Preparing or manufacturing a white sulphate from the impure native sulphate of barytes [ <i>a substitute for white-lead</i> ].	5258	29th Sept. 1825	William Duesbury.
Process for promoting the action of the acetic acid on metallic bodies [ <i>for the production of white- lead</i> ].	5377	13th June 1826	John Ham.
Manufacturing or making white-lead - - - -	5383	4th July 1826	Peter Groves.
Making white-lead or carbonate of lead - - -	6520	11th Dec. 1833	{ John Baptiste Constan- tine Torassa. Paul Isaac Muston. Henry Walker Wood.
Making ceruse or white-lead - - - - -	7046	29th March 1836	{ William Gossage. Edward White Benson.
Manufacture of white-lead - - - - -	7207	13th Oct. 1836	John Hemming.
Manufacture of white-lead - - - - -	7280	11th Jan. 1837	Robert Sewell.
Manufacturing oxyde of lead, applicable to making paints, and for other purposes.	7284	19th Jan. 1837	William Gossage.
Manufacture of white-lead - - - - -	7326	15th March 1837	William Maugham.
Manufacture of white-lead - - - - -	7521	23rd Dec. 1837	{ Charles Button. Harrison Grey Dyar.
Manufacture of the oxydes of lead and also of the } carbonate of lead - - - - - }	7531	5th Jan. 1838	{ Charles Watt. Thomas Rainforth Tebbutt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CHEMICAL SALTS, &amp;c.—continued.</b>			
Manufacture of carbonate of lead - - - -	7710	27th June 1838	Edward White Benson.
Manufacturing white-lead - - - -	7736	14th July 1838	Thomas Robert Sewell.
Oxydizing lead, converting the same into pigments of white and red lead.	7756	1st Aug. 1838	Edward Heard.
Process of manufacturing white-lead - - - -	7830	11th Oct. 1838	John Woolrich.
Manufacture of white-lead - - - -	7846	3rd Nov. 1838	Horace Cory.
Obtaining white-lead - - - -	7885	28th Feb. 1839	John Leigh.
Manufacture of white-lead - - - -	8166	20th July 1839	Charles Flude.
Preparation of sulphate of lead, applicable to some of the purposes for which carbonate of lead is applied.	8305	9th Dec. 1839	Thomas Richardson.
Manufacture of white-lead - - - -	8627	10th Sept. 1840	Hugh Lee Pattinson.
Manufacture of white-lead - - - -	8735	16th Dec. 1840	George Wildes.
Manufacture of white-lead - - - -	9064	4th Sept. 1841	George Wildes.
Manufacture of white-lead - - - -	9102	24th Sept. 1841	Hugh Lee Pattinson.
Making oxydes of metals, also making white-lead, sugar-of-lead, and other salts of lead, and salts of other metals.	9501	27th Oct. 1842	John Mullins.
Manufacture of white-lead - - - -	11,521	7th Jan. 1847	Charles Runhold Lothman.
Manufacture of chlorine; obtaining products therefrom [ <i>oxydes of lead and manganese</i> ].	11,585	19th Feb. 1847	François Stanilas Meldon de Sussex.
Manufacture of carbonate of lead - - - -	11,710	22nd May 1847	Jean Marie Fourmentin.
Treating zinc ores, and manufacturing oxyde of zinc [ <i>as a substitute for white-lead</i> ].	12,001	22nd Dec. 1847	Charles André Felix Rochaz.
Manufacture of white-lead - - - -	12,246	21st Aug. 1848	Thomas Richardson.
Manufacture of a certain compound of lead; applying the same and other compounds of lead to various useful purposes.	12,252	22nd Aug. 1848	Hugh Lee Pattinson.
Manufacturing of a certain compound of lead; applying the same and other compounds of lead to various purposes.	12,479	14th Feb. 1849	Hugh Lee Pattinson.
Manufacture of oxyde of zinc [ <i>substitute for white-lead</i> ].	12,498	28th Feb. 1849	Charles André Felix Rochaz.
Manufacture of white-lead - - - -	12,503	5th March 1849	Henry Constantine Jennings.
Manufacture of white-lead - - - -	12,724	1st Aug. 1849	Julian Edward Desbrowe Rodgers.
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2. ( <i>Vitriol.</i> )			
Making vitriol out of copper ore - - - -	108	28th July 1637	Captain Thomas Whitmore.
Making verdigris and boiling the same in wooden or other pans; also making such pans or vessels of wood.	270	26th Aug. 1691	Thomas Neale.
Extracting vitriol from a certain mineral - -	1015	30th April 1772	Christian Wilhelm Baron Van Haacke.
Extracting white and green vitriol from lead-glitter, blue-stone, and iron ore; also blue vitriol from copper ore.	1243	5th Feb. 1780	Matthew Sanderson.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CHEMICAL SALTS, &amp;c.—continued.</b>			
Making (from the same material) copperas and vitriol;—applicable to other purposes.	1809	2nd May 1791	William Murdock.
Making verdigris in lumps or powder, with ingredients the produce of Great Britain.	2666	30th Nov. 1802	Daniel Craanen.
Manufacturing sulphate of copper - - -	3001	15th Jan. 1807	Walter Henry Wyatt.
Manufacturing verdigris; "British verdigris" -	3519	20th Jan. 1812	Jacob Zink.
Manufacturing verdigris - - - - -	3720	14th July 1813	William Godfrey Kneller.
Making verdigris - - - - -	3853	12th Nov. 1814	William Benecke.
Manufacturing verdigris - - - - -	4211	27th Jan. 1818	George Frederick Hagner.
Treating mineral waters to obtain products therefrom; separating metals from other matters [obtaining copperas].	10,362	22nd Oct. 1844	James Napier.
Manufacture of copperas - - - - -	10,970	27th Nov. 1845	Peter Spence.
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3. (Prussian Blue.)			
Making prussiate of iron; construction of machinery used in the said manufacture - - - }	6247	22nd March 1832	{ William Alexander Brown. Herman Hendriks.
Converting the refuse arising in the manufacture of coal-gas, into an article of commerce not before produced therefrom [Prussian blue].	6276	9th June 1832	George Lowe.
Manufacture of Prussian blue - - - - -	7156	27th July 1836	Peter Spence.
Manufacture of Prussian blue - - - - -	8038	16th April 1839	John Swindells.
Converting the refuse products from the manufacture of coal-gas into Prussian blue.	11,238	4th June 1846	George Lowe.
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4. (Oxydes of Zinc, Iron, Manganese.)			
Obtaining oxydes and peroxydes of manganese in the residuary liquids from the manufacture of chlorine and chlorides.	9676	24th March 1843	Gregory Seale Walters.
Manufacture of peroxyde of iron - - - - -	10,004	1st Jan. 1844	William Longmaid.
Separating oxydes from metals and metallic substances.	10,679	22nd May 1845	Peter Armand le Comte de Fontainemoreau.
Working sulphurets to convert them into metal or oxydes, and to collect the latter; also to collect the oxydes from oxydised ores equivalent to these sulphurets.	11,123	11th March 1846	Jean Joseph Ernest Barruel.
Separating oxydes from their compounds and each other; apparatus for the purpose.	11,910	14th Oct. 1847	Arthur Wall.
Treating zinc ores and manufacturing oxyde of zinc	12,001	22nd Dec. 1847	Charles André Felix Rochaz.
Treating the oxydes of iron and obtaining products therefrom.	12,297	26th Aug. 1848	William Longmaid.
Manufacture of oxyde of zinc - - - - -	12,498	28th Feb. 1849	Charles André Felix Rochaz.
Manufacture of oxyde of antimony from copper and other ores, and also the oxyde of zinc.	12,982	27th Feb. 1850	Brereton Todd.
Manufacture of oxyde of zinc - - - - -	13,067	30th April 1850	Evan Protheroe.
Obtaining, preparing, and applying oxydes of zinc and other volatile metals.	13,192	23rd July 1850	William Edward Newton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CHEMICAL SALTS, &amp;c.—continued.</b>			
Treatment of metallic ores and certain salts and residuary matters; obtaining products therefrom [ <i>manufacture of oxyde of zinc</i> ].	13,987	23rd Feb. 1852	Samuel Boulton.
Treating ores containing zinc, and products obtained therefrom [ <i>manufacture of oxyde of zinc from blend and calamine</i> ].	13,999	8th March 1852	James Graham.
Treatment of the residual products of gas, and of the distillation of coal or other similar substances, and of the coking of coal [ <i>recovering oxyde of iron from the residual products in the purification of gas</i> ].	14,280	12th Aug. 1852	Richard Laming.
<b>IV.—Miscellaneous Salts, Oxydes, and Compounds; also oxydizing and oxygenating.</b>			
Method of using steam in aid of fire in obtaining salts of all kinds; may be used in various kinds of chemistry.	1384	16th Aug. 1783	Robert Vazie.
Refining and preparing salts and other substances, by steam.	1492	27th July 1785	Sutton Thomas Wood.
Procuring certain neutral salts, substances, and things; applying those and other neutral salts to valuable purposes.	2211	25th Jan. 1798	Archibald Earl of Dundonald.
Process of extracting quinine and cinchonine from Peruvian bark; preparing salts of the same.	5332	11th Feb. 1826	William Warren.
Making sulphate of quinine - - - - -	6453	25th July 1833	{ Joseph Pelletier. Jean Andrien Desprez.
Oxydizing or oxygenizing certain animal or vegetable substances; separating their several parts to render them (by means of divers operations, and either separately or in combination with other materials) capable of producing useful articles.	6953	15th Dec. 1835	Frederick Hempel.
Manufacturing or preparing chemical salts called acetates.	8025	9th April 1839	Charles Adolphe Roederer.
Dissolving and separating the oxydes from metals and metallic substances.	10,679	22nd May 1845	Peter Armand le Comte de Fontainemoreau.
Working certain sulphurets to transform them into metal or oxydes, and to collect the latter; collecting oxydes from oxydized ores equivalent to these sulphurets.	11,123	11th March 1846	Jean Joseph Ernest Barruel.
Application of processes used in making ink, to the production of certain salts [ <i>ammonio-iodide and ammonio-periodide of gold</i> ].	11,474	3rd Dec. 1846	Joseph Bancroft Reade.
Treatment of metallic oxydes and their compounds; apparatus for the purpose.	11,515	31st Dec. 1846	Adrien Chénol.
Apparatus for and method of separating oxydes from their compounds and from each other.	11,910	14th Oct. 1847	Arthur Wall.
Manufacture of certain salts; apparatus applicable for the purpose - - - - -	12,028	18th Jan. 1848	{ Charles Crane. James Thomas Jullion.
Apparatus to be used in processes connected with the manufacture of certain salts.	12,136	13th June 1848	William Hunt.
Treating certain salts and gases or vapours - - -	12,290	19th Oct. 1848	Frank Clarke Hills.
Compounds for prevention of injuries to health under certain circumstances [ <i>disinfecting compounds</i> ].	12,354	2nd Dec. 1848	Robert Nelson Collins.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CHEMICAL SALTS, &amp;c.—continued.</b>			
Oxygenating water [ <i>this part of the patent was disclaimed</i> ].	12,556	2nd April 1849	William MacBride.
Manufacture of nitrates - - - - -	12,661	10th Dec. 1849	Jean Baptiste Ecarnot.
Disoxygenation of certain bodies, and application separately or simultaneously of the products therefrom.	13,092	1st June 1850	Guillaume Ferdinand de Douhet.
Manufacture of saline and metallic compounds -	13,950	3rd Feb. 1852	Peter Claussen.
Obtaining chemical products by electricity -	14,196	6th July 1852	Martyn John Roberts.
<b>V.—Chlorine and its Compounds.</b>			
Apparatus to produce or evolve chlorine for manufacturing purposes - - - - -	6488	19th Oct. 1833	{ John Tennant. Thomas Clark.
Production of chloride of lime and certain other chemical substances.	7039	22nd March 1836	William Maugham.
Decomposing muriate of soda for manufacturing mineral alkali and other valuable products [ <i>producing chloride of zinc</i> ].	7942	19th Jan. 1839	Oglethorpe Wakelin Barratt.
Obtaining and rendering useful chlorine, also the chloride of lime and soda, and other compounds of chlorine, for bleaching.	7963	8th Feb. 1839	Christopher Binks.
Apparatus for the manufacture of chlorine and chlorides.	8000	14th March 1839	Josias Christopher Gamble.
Manufacturing calomel and corrosive sublimate -	8872	8th March 1841	Anthony Todd Thomson.
Manufacture of chlorine - - - - -	9041	4th Aug. 1841	John Lee.
Manufacture of chlorine - - - - -	9310	31st March 1842	Julius Seybel.
Manufacture of chlorine and chlorides - - -	9876	24th March 1843	Gregory Seale Walters.
Manufacture of chlorine - - - - -	10,528	20th Feb. 1845	Robert Oxland.
Manufacture of chlorine - - - - -	10,797	4th Aug. 1845	William Longmaid.
Manufacture of chlorine - - - - -	11,290	14th July 1846	Watson Pattinson.
Manufacture of chlorine - - - - -	11,484	14th Dec. 1846	William Longmaid.
Manufacture of chlorine; obtaining products therefrom [ <i>producing chlorides</i> ].	11,585	19th Feb. 1847	François Stanislas Meldor de Sussex.
Manufacture of chlorine; application of the products resulting therefrom.	11,624	16th March 1847	Charles Tennant Dunlop
Manufacture of chlorine - - - - -	11,931	2nd Nov. 1847	William Longmaid.
Manufacture of chlorine - - - - -	12,333	21st Nov. 1848	{ Alexander M'Dougal. Henry Rawson.
Manufacture or treating solvents of india-rubber and other gums [ <i>manufacturing chloride or bi-chloride of carbon</i> ] - - - - -	12,585	26th April 1849	{ George Simpson. Thomas Forster.
Treating certain products resulting from the distillation of coal;—partly applicable to other similar purposes [ <i>making chloride of calcium</i> ] -	13,059	23rd April 1850	{ Richard Laming. Frederick John Evans.
Manufacture of "Pattinson's oxy-chloride of lead."	13,519	18th Feb. 1851	Hugh Lee Pattinson.
Improvements in treating ores and minerals and in obtaining various products therefrom; certain parts of which improvements are applicable to the manufacture of alkali.	13,630	10th May 1851	William Longmaid.
Forming certain compounds or combinations of substances [ <i>hypo-chlorites and chlorates of alkalis</i> ].	13,755	25th Sept. 1851	Charles Watt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CHEMICAL SALTS, &amp;c.—continued.</b>			
Treatment of metallic ores, and certain salts and residuary matters; obtaining products therefrom [ <i>manufacture of chloride of zinc</i> ].	13,987	23rd Feb. 1852	Samuel Boulton.
Treatment and application of slag, or the refuse matter of blast-furnaces [ <i>obtaining chloride of calcium from slag</i> ].	14,013	8th March 1852	Alexander Cuninghame.
Manufacture of chlorine - - - - -	14,058	6th April 1852	William Watson Pattison.
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<b>VL.—Chemical Apparatus and Vessels.</b>			
Manufacturing certain materials into crucibles, named black-lead crucibles.	919	5th March 1769	Goussé Bounin.
Beautifying vessels used for chemical and other purposes.	2296	28th Feb. 1799	Samuel Sandy Hickling.
Manufacture of certain chemical utensils and vessels	6445	29th June 1833	Christopher Piggett Banks
Retorts, stills, and other chemical apparatus; machinery connected therewith, by the use or employment of which various processes can be more speedily, conveniently, and economically performed.	7023	8th March 1836	Benjamin Simmons.
Construction and arrangement of apparatus applicable to certain chemical processes.	12,642	7th June 1849	Thomas Masters.
Treating peat and other carbonaceous and ligneous matters, so as to obtain products therefrom [ <i>churn for digesting, bleaching, and chemically treating liquid carbonaceous substances</i> ].	12,990	7th March 1850	William Benson Stoner.
Use and treatment of peat and its products, and other carbonaceous matters; apparatus applicable to such and other chemical purposes [ <i>apparatus for mixing, digesting, bleaching, washing, purifying, and otherwise chemically treating matters, fluids, and gases</i> ].	13,590	15th April 1851	William Benson Stones.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOCKS, WATCHES, CHRONOMETERS, AND OTHER TIMEKEEPERS.</b>			
<b>I.—Making and constructing.</b>			
<b>1. (Astronomical, Marine, and other Timekeepers.)</b>			
Making a watch or clock to go for several weeks, without spring, chain, or other method of winding up.	131	8th Feb. 1661	The Right Honourable the Marquis of Worcester.
Watch or clock, with the balance-wheel flat or hollow, to work within and across the centre of the verge, with teeth like tenter-hooks to move the balance or pendulum, the pallets of the verge to be circular, concave, and convex - - -	344	23rd Sept. 1695	{ Edward Booth. William Houghton. Thomas Tompion.
Clock which with one set of wheels strikes the hours and quarters, or the past hours with each quarter.	535	11th Jan. 1732	John Rowning.
Constructing and making watches - - -	771	20th April 1762	David Marie.
Making watches - - - - -	819	29th Nov. 1764	Frederick Kehlhoff.
Central second stop-watch, vertical or horizontal, without the assistance of a compound motion.	946	13th Dec. 1769	James Freeman.
Fancy watch, with an improved pendulum - -	965	21st July 1770	Thomas Harris.
Clock which strikes the hours and parts; also a watch which repeats the hours and parts, and contrived to contain its appendages, as a key, seal, or tricket.	987	2nd May 1771	Eardley Norton.
Repeating watch - - - - -	1021	31st July 1772	Robert Webster.
Constructing time-pieces - - - - -	1048	22nd July 1773	William Small.
Making watches to keep time and motion without winding up by key or other manual operation.	1249	18th March 1780	Louis Recordon.
Automaton clock or time-piece - - - - -	1325	15th April 1782	Hildebrand Morley.
Single and compound time-pieces - - - - -	1342	5th Nov. 1782	Hildebrand Morley.
Watch or timekeeper - - - - -	1354	1st Feb. 1783	Thomas Wright.
Geometrical and pedometrical watch - - -	1377	17th June 1783	John Fischer.
Clocks, watches, and other timekeepers used at sea or on land.	1970	13th Dec. 1793	Robert Leslie.
Marine timekeeper for ascertaining the longitude at sea.	2132	17th Aug. 1796	Charles Haley.
Constructing a watch so as to unite with a mariner's compass "a polar watch."	2280	17th Dec. 1798	Randall Peckham.
Pedometers and pedometrical watches, by the use of which the number of steps the wearer takes when walking may be ascertained, or if affixed to a saddle will indicate the number of paces the horse makes, and when affixed to a curricie or other carriage will also indicate the number of the revolutions of the wheels.	2351	4th Nov. 1799	Ralph Gout.
Time-piece or "watchman's noctuary and labourer's regulator."	2700	20th April 1803	Samuel Day.
Making repeaters or repeating watches and chronometers.	2759	14th May 1804	Joseph Moseley Elliott.
Construction of clocks and other timepieces - -	2834	26th March 1805	George Alexander Bond.
Chronometer for ascertaining the time of a ship's log running out, the time of the watches on ship-board, and for other purposes.	2893	19th Nov. 1805	John de la Fons.
Making and constructing repeaters or repeating watches and timepieces.	2983	30th Oct. 1806	Joseph Moseley Elliott.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOCKS, WATCHES, &amp;c.—continued.</b>			
Timekeepers - - - - -	3085	5th Dec. 1807	Joseph Manton.
Construction of watches and chronometers - -	3125	27th April 1808	Daniel Dering Matthew.
Measuring time, and constructing clocks and chronometers.	3164	24th Aug. 1808	William Congreve.
Making infallible repeating watches - - -	3174	31st Oct. 1808	Joseph Anthony Berrollas.
Phantasmagoric chronometer or nocturnal dial, representing or making visible at night, on an enlarged scale, the dial of the watch against the wall of the room, the reflection obtained by a light and optical apparatus being sufficient at the same time to give the room a pleasing illumination. The dial may be constructed of any watch or time-piece, but is rendered more simple and useful by the adoption of an instrument or "mysterious circulator," which requires only one hand to show seconds, minutes, and hours; which also may, with little alteration, be made to represent on orrery.	3185	20th Dec. 1808	John Schmidt.
Warning watch - - - - -	3342	26th May 1810	Joseph Anthony Berrollas.
Mechanical musical instruments, on a new construction;—applicable to clocks and other machinery.	3487	9th Sept. 1811	John Chancellor.
Construction of watches - - - - -	3488	9th Sept. 1811	Thomas Marsh.
Construction of chronometers - - - - -	3559	30th April 1812	Edward Massey.
Binnacle time-piece or timekeeper - - -	3584	16th July 1812	Morris Tobias.
Hydrostatic or pneumatic chronometer - - -	3663	13th March 1813	Sigismund Rentzsch.
Horizontal watches - - - - -	3732	9th Aug. 1813	Robert Westfield.
Chronometers and pocket-watches - - -	3854	17th Nov. 1814	Edward Massey.
Watches and clocks - - - - -	4317	5th Dec. 1818	Frederick William Seyffert.
Construction of chronometers and pocket-watches -	4465	19th May 1820	Edward Massey.
Chronometers - - - - -	4530	27th Jan. 1821	James Ferguson Cole.
Astronomical instrument or watch by which the time of the day, the progress of the celestial bodies, as well as of carriages, horses, or other animals, may be correctly ascertained.	4645	9th Feb. 1822	Frederick Louis Fatton.
Construction of chronometers or watches [ <i>for astronomical observations</i> ].	4707	27th Sept. 1822	Frederick Louis Fatton.
Chronometers - - - - -	5126	26th March 1825	John Gottlieb Ulrich.
Construction and manufacture of watches of different descriptions - - - - -	5314	6th Jan. 1826	{ James Ogaton. James Thomas Bell.
Detached alarm watches - - - - -	5489	28th April 1827	Joseph Anthony Berrollas.
Detached alarm watch - - - - -	5586	13th Dec. 1827	Joseph Anthony Berrollas.
Chronometers - - - - -	5639	19th April 1828	John Gottlieb Ulrich.
Watches and timekeepers - - - - -	5850	23rd Sept. 1829	Robert Westwood.
Watches and other horological machines - -	5851	23rd Sept. 1829	Isaac Brown.
Chronometers - - - - -	6064	22nd Jan. 1831	John Gottlieb Ulrich.
Improvements in or additions to horological machines.	6506	14th Nov. 1833	John Pace.
Watches and clocks - - - - -	6697	17th Oct. 1834	George Littlewort.
Watches and other timekeepers - - - - -	7083	7th May 1836	Joseph Banister.
Chronometers - - - - -	7350	22nd April 1837	John Gottlieb Ulrich.
Chronometers and other timekeepers - - -	7878	9th June 1838	Edward John Massey.
Watches and machines for keeping time - -	7807	13th Sept. 1838	Edward Massey.
Chronometers, watches, and other timekeepers -	8145	6th July 1839	George Philcox.
Clocks, watches, and other timekeepers - -	8306	11th Dec. 1839	Pierre Frederic Gougy.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOCKS, WATCHES, &amp;c.—continued.</b>			
Chronometers - - - - -	8418	7th March 1840	Robert Molyneux.
Construction of timekeepers - - - - -	8501	9th May 1840	Auguste Moinau.
Clock or time-piece - - - - -	8515	23rd May 1840	James Collard Davies.
Clocks and chronometers - - - - -	8602	13th Aug. 1840	John Peter Isaie Poncy.
Clocks and other timekeepers - - - - -	8625	10th Sept. 1840	Edward John Dent.
Manufacture of the detached lever watch - - -	8997	23rd June 1841	William Walker.
Watches - - - - -	9120	14th Oct. 1841	Edward Massey.
Chronometers and other timekeepers - - - - -	9302	21st March 1842	Edward John Dent.
Construction of watches - - - - -	9915	21st Oct. 1843	George Edward Mylne.
Watches and chronometers - - - - -	10,348	14th Oct. 1844	Adolphe Nicole.
Clocks, watches, or timekeepers - - - - -	10,876	10th Oct. 1845	Charles Hanson.
Construction of chronometers and other timekeepers	11,177	25th April 1846	George Philcox.
Clocks or timekeepers - - - - -	11,178	28th April 1846	William Edward Newton.
Chronometers and other timekeepers - - - - -	11,427	22nd Oct. 1846	John Hutton.
Timekeepers - - - - -	11,443	12th Nov. 1846	Thomas Yates.
Improvements applicable to timekeepers and to other purposes - - - - -	11,576	11th Feb. 1847	{ Alfred Brett. George Little.
Timekeepers and clocks, and apparatus connected therewith.	11,584	19th Feb. 1847	Alexander Bain.
Clocks or timekeepers - - - - -	11,776	3rd July 1847	Robert Weare.
Clocks and timekeepers - - - - -	11,985	1st Dec. 1847	Gustavus Moenck.
Manufacture of astronomical and other clocks, chronometers, and watches.	11,987	8th Dec. 1847	James Sweetman Eiffe.
Chronometers, clocks, watches, or other timekeepers } [adapting musical boxes to the same] - - - - }	12,154	11th May 1848	{ Thomas Restell. Richard Clark.
Clocks and other timekeepers - - - - -	12,307	11th July 1848	Richard Roberts.
Clocks and watches - - - - -	12,516	14th March 1849	William Payne.
Manufacture of watches [producing musical sounds in clocks and watches].	12,522	14th March 1849	Pierre Augustin Chaufourier.
Manufacture of watches - - - - -	12,516	14th March 1849	William Payne.
Timekeepers - - - - -	12,983	28th Feb. 1850	George Tosco Peppé.
Hydraulic clocks - - - - -	13,268	3rd Oct. 1850	CyprienTheodoreTiffereau.
Construction of timekeepers - - - - -	13,587	10th April 1851	Charles M'Dowall.
<b>2. (Electric Clocks and Timekeepers.)</b>			
Pendulum for measuring time and finding out the longitude at sea.	143	3rd March 1664	Abraham Hill.
Measuring time by means of one wheel, and with more accuracy than with a multiplicity of wheels.	315	3rd March 1693	John Hadley.
Glass for the use of mariners at sea, when heaving the log, in lieu of the common sand-glass, and for other uses.	2706	28th May, 1803	Chester Gould.
Construction of sun-dials, designed to show mean time.	8134	27th June 1839	William Newton.
Machinery partly applicable to the measurement of time.	8645	24th Sept. 1840	John Johnston.
Electric time-pieces - - - - -	9745	27th May 1843	Alexander Bain.
Electric clocks;—partly applicable to other purposes.	10,838	25th Sept. 1845	Alexander Bain.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOCKS, WATCHES, &amp;c.—continued.</b>			
Electric clocks and timekeepers - - - - -	11,634	23rd March 1847	William Henry Hatcher.
Clocks or timekeepers [ <i>magnetic and electro-magnetic clocks and timekeepers</i> ].	11,776	3rd July 1847	Robert Weare.
Working clocks and other timekeepers by electricity.	12,567	16th April 1849	Charles Shepherd.
Electric clocks - - - - -	12,711	18th July 1849	{ William Brown. Henry Shapple. William Williams.
Electric clocks and timekeepers; apparatus connected therewith.	14,146	29th May 1852	Alexander Bain.
<b>II.—Movements and Parts of Timekeepers.</b>			
Working precious stones, and other stones, glass, and other matters different from metals, so that they may be employed in clocks, watches, and other articles, as an internal part of the same or for ornament - - - - -	371	1st May 1704	{ Nicholas Facio. Peter Debaufre. Jacob Debaufre.
Two circular movements performed by endless chains, useful in clockwork.	407	31st July 1716	Robert Evans.
Secret spring to secure a watch in a man's fob or by a lady's side.	639	31st Jan. 1749	Benjamin Cartwright.
New movements in watches, also a slide for regulating watches.	688	1st March 1755	Joseph Bosley.
Tools and engines for preparing, stamping, fixing, turning, cutting, and finishing divers parts of a watch.	763	25th June 1761	George Sanderson.
Pendulum-spring for timekeepers, and compensating the effects of heat and cold on the same.	1113	30th Dec. 1775	John Arnold.
Horizontal escapement for a watch, to act with two wheels.	1311	1st Jan. 1782	Thomas Tyrer.
Wheel-engine for giving a constant motion to clocks, timekeepers, and instruments.	1324	15th April 1782	Hildebrand Morley.
Escapement and balance, to compensate the effects of heat and cold in pocket chronometers or watches; also for incurvating the two ends of the helical spring, to render the expansion and contraction of the spring concentric with the centre of the balance.	1326	2nd May 1782	John Arnold.
Mechanical motion to be applied to clocks and timepieces.	1650	20th May 1788	James White.
Escapement to be applied to watches, clocks, or dials, for use at sea or on land.	1830	14th Oct. 1791	Peter Litherland.
Watches, particularly escapements to be applied to them.	1869	12th June 1792	Peter Litherland.
Constructing certain parts and movements of watches, clocks, and timepieces.	1936	15th March 1793	Richard Cole.
Time-repeater to be applied to watches, for striking the hours and quarters.	2148	24th Nov. 1796	Charles Trusted.
Machine for making watch springs - - - - -	2482	17th Feb. 1801	John Bennoch.
Regulating and equalizing the power of the main-spring in watches or other machines for measuring time.	3102	26th Jan. 1808	George Savage.
Escapement for watches - - - - -	3620	9th Dec. 1812	Samuel Smith.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOCKS, WATCHES, &amp;c.—continued.</b>			
Horizontal escapement for watches - - - -	4097	1st Feb. 1817	William Wall.
Escapement of watches - - - - -	4103	20th Feb. 1817	Richard Litherland.
Escapement for clocks, watches, and chronometers -	4128	22nd May 1817	Seth Hunt.
Detaching the escape-wheel of chronometers from the influence of the friction and inaccuracies of the mainspring, pivots, and teeth of all the other wheels in the machine, during the time of its giving impulses to the balance, whereby its vibrations will be more accurately and uniformly supported.	4214	29th Jan. 1818	George Prior.
Expansion-balance for chronometers - - - -	4531	27th Jan. 1821	John Roger Arnold.
Mechanism of chronometers, watches and clocks;—applicable to other mechanical purposes.	6581	20th March 1834	Thomas Baker.
Balance-springs of chronometers and other timekeepers, and their adjustment.	7067	23rd April 1836	Edward John Dent.
Mechanism of timekeepers - - - - -	7456	2nd Nov. 1837	James Gowland.
Manufacture of escapements for chronometers, clocks, and watches.	7674	15th Nov. 1838	Joseph Eden Macdowall.
Application of moving power to clocks and time-pieces - - - - -	8783	11th Jan. 1841	{ John Barwise. Alexander Bain.
Construction of certain parts of the mechanism used in watches and chronometers;—applicable to some kind of clocks.	9438	8th Aug. 1842	Charles Henri Perrin.
Machinery for making parts of watches and other timekeepers.	9511	8th Nov. 1842	Pierre Frederick Ingold.
Machinery for making parts of watches and other timekeepers.	9752	1st June 1843	Pierre Frederick Ingold.
Construction of compensation balances of chronometers.	9969	25th Nov. 1843	John Richard Lund.
Machinery for making parts of watches and other timekeepers.	9993	21st Dec. 1843	Pierre Frederick Ingold.
Manufacturing dials and graduated plates - - -	10,626	17th April 1845	William Peter Piggott.
Manufacture of dials for clocks, watches, barometers, gas-meters, mariners' compasses, and other articles requiring the same - - - -	13,558	17th March 1851	{ Augustus John Hoff- staedt. Herbert Minton.
<b>III.—Watch Keys, Chains, and Guards;—winding up Timekeepers.</b>			
New invented machine, called a lunar and calendar watch-key.	777	25th June 1762	George Sanderson.
Ring called a lunar or calendar ring - - - -	836	7th Jan. 1766	John Haywood.
Instrument for preventing robbery from the person ("Watch and note guard").	1495	5th Aug. 1785	James Chater.
Making watch-keys with a spring, to preserve the watch from injury when the key is turned the wrong way.	1708	6th Nov. 1789	Samuel Bolton Harlow.
Link for chains; making a watch-chain or any other chain by uniting such links together, and which can be lengthened or shortened by adding or taking away such links without cutting or breaking them.	1823	13th Aug. 1791	Colin Mackenzie.
Movement applied to watches to enable them to be wound up by the pendent knob, without any detached key or winder.	4501	20th Oct. 1820	Thomas Prest.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOCKS, WATCHES, &amp;c.—continued.</b>			
Method of winding up a pocket watch or clock of any description without a key ("Berrollas' key-less watch or clock").	5586	13th Dec. 1827	Anthony Berrollas.
Winding up watches and other timekeepers - -	8947	4th May 1841	Francis Joseph Massey.
Machinery for winding up clocks and other timekeepers.	12,207	11th July 1848	Richard Roberts.
Watch-keys and other instruments for winding up watches and other timekeepers.	12,056	12th June 1849	William Preddy.
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<b>CLOTH FULLING, DRESSING, CUTTING, AND FINISHING.</b>			
<b>I.—Fulling and felting.</b>			
Felting woollen cloth, and also felting cloth manufactured of sheeps'-wool and other combined materials.	2688	10th March 1803	James Bennett.
Manufacture of materials and the application thereof to making ships and vessels water-tight and seaworthy ("Adhesive felt").	3692	9th March 1815	William Wood.
Fulling woollen cloth [ <i>fulling-mills</i> ] - - -	3980	23rd Nov. 1815	{ George Austin. John Dutton.
Machinery for fulling woollen or other cloths - -	4013	5th April 1816	William Lewis.
Preparing a substitute for leather [ <i>cloth or felt dressed with glue, oil, &amp;c.</i> ]	4608	28th Feb. 1824	John Gunby.
Manufacture of a fabric named "British cashmere" [ <i>fulling</i> ].	4633	7th April 1824	Jonathan Schofield.
Cleaning, milling, or fulling cloth - - - -	5119	5th March 1825	{ William Hirst. John Wood.
Fulling and washing woollen cloths or other fabrics requiring fulling.	5181	7th June 1825	Alfred Bernon.
Fulling-mills, or machinery for fulling and washing } woollen cloths or other fabrics that require the } process of felting or fulling - - - - }	5245	20th Aug. 1825	{ Peter Willans. James Ogle.
Milling and scouring woollen cloths and other fabrics, by machinery;—applicable to stocks or fulling-machines.	5661	3rd June 1828	Daniel Jobbins.
Materials in combination, suitable for milling or } fulling cloths and other fabrics - - - - }	5774	10th March 1829	{ William Storey. Samuel Hirst.
Manufacturing felt or a substance in the nature thereof, applicable to covering the bottoms of vessels.	5791	23rd May 1829	Thomas Robinson Williams.
Preparation of hemp, flax, and other fibrous materials, for manufacture of paper-makers' felts and for other purposes.	6451	18th July 1833	John Livesey.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH FULLING, DRESSING, &amp;c.—continued.</b>			
Machine for fulling, thickening, felting, and cleansing woollen cloth or other fabrics.	8460	13th Aug. 1833	John Dyer.
Improvements applicable to the fulling of woollen cloths.	7040	22nd March 1836	John Cox.
Fulling woollen cloths - - - - -	7311	25th Feb. 1837	Thomas Bentley.
Manufacture of hosiery, shawls, carpets, rugs, blankets and other fabrics [ <i>by felting or forming a firm texture with fur or hair mixed with other fibrous materials, without the addition of any adhesive mixture</i> ].	7608	4th April 1838	William Angus Robertson.
Making felt and tissues - - - - -	7794	6th Sept. 1838	Morton Balmano.
Manufacturing felt suitable for hats and other purposes; preparing the materials used in the manufacture of such felt.	7935	12th Jan. 1839	William Ponsford.
Manufacture of felt - - - - -	8176	1st Aug. 1839	William Abbott, junior.
Chemically preparing and cleansing felts used by paper manufacturers.	8291	2nd Dec. 1839	John Evans.
Manufacture of woollen and other fabrics, or fabrics of which wool or fur forms a principal component part; machinery employed for the purpose [ <i>making cloth by felting alone, without spinning and weaving</i> ].	8387	14th Feb. 1840	Thomas Robinson Williams.
Manufacture of woollen cloth, and cloth made from wool and other materials [ <i>fulling and milling cloths</i> ].	8642	24th Sept. 1840	William Hirst.
Manufacture of woollen fabrics, or fabrics of which wools, furs, or hairs are the principal components; machinery used therein [ <i>making cloth by felting alone, without spinning and weaving</i> ].	8646	24th Sept. 1840	Thomas Robinson Williams.
Manufacture of woollen cloths [ <i>felting bats of wool for making cloth</i> ].	8926	17th April 1841	Henry Augustus Wells.
Manufacture of fabrics by felting - - - - -	8951	6th May 1841	Moses Poole.
Machinery for fulling woollen cloths - - - - -	9088	20th Sept. 1841	Luke Hebert.
Machinery for manufacturing felts or felted cloths -	9090	20th Sept. 1841	William Newton.
Machinery for manufacturing woollen cloth, and cloth made from wool and other materials [ <i>felting</i> ] - - - - -	9109	7th Oct. 1841	{ William Hirst. Joseph Weight.
Preparing surfaces of fabrics for covering roofs, floors, and other surfaces - - - - -	9331	25th April 1842	{ Raoul Armand Joseph Jean Comte de la Chatre. Richard Tappin Claridge. Richard Hodgson.
Fulling goods made of cotton, silk, and other fibrous materials.	10,059	19th Feb. 1844	Alexander Alliott.
Machinery for operating upon wool and other fibrous material intended to be wrought into felted fabrics.	11,160	7th April 1846	William Thomson.
Combining materials to be employed in fulling cloth.	11,272	29th June 1846	Joseph Seraphin Faucon.
Felting or otherwise treating or preparing fibrous substances.	11,367	3rd Sept. 1846	George Senior.
Manufacture of woollen and other fabrics [ <i>milling, felting, or fulling fabrics</i> ].	12,472	12th Feb. 1849	Christopher Nickels.
Manufacture of woollen and other fabrics [ <i>making felted fabrics with undulating surfaces</i> ].	12,938	23rd Jan. 1850	Christopher Nickels.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH FULLING, DRESSING, &amp;c.—continued.</b>			
Preparing materials for felting; also improvements in felts.	13,224	16th Aug. 1850	Peter Claussen.
Manufacture of woollen and other fabrics [ <i>felting or fulling terry fabrics, felting double fabrics, felting double-ribbed fabrics</i> ].	13,364	23rd Nov. 1850	Christopher Nickels.
Manufacture of felted fabrics - - - -	13,612	3rd May 1851	William Edward Newton.
Machinery for manufacturing felted fabrics - -	13,661	3rd June 1851	Thomas Parker.
Machinery or apparatus for manufacturing woollen cloth, and cloth made from wool and other materials [ <i>facing woollen cloth with a layer of wool, or wool mixed with other materials, by a fulling process</i> ].	13,862	19th Dec. 1851	William Hirst.
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<b>II.—Flocking and cementing.—Making Wadding; cementing Carpets and other Fabrics.</b>			
Making tapestry without any weaving-loom or way hitherto in use in this kingdom.	50	21st Jan. 1630	David Ramsey.
Affixing wool, silk, and other materials upon linen cloth, silk, cotton, leather, and other substances, with oil, size, and other cements, for hangings ("Londrindiana").	70	21st May 1634	Jerome Lainer.
Cemented hair shag, both elegant and durable, and which answers various useful purposes.	1196	13th July 1778	William Harby.
Manufacture for covering the floors of rooms, and for covering and packing goods; fit to be used for various other purposes [ <i>a fabric made from scrapings of leather, hair, and other materials, beaten into a pulp, and cemented by glutinous matter</i> ].	2507	2nd June 1801	Thomas Winter.
Making dyed, bottled, or felted wool, into mats, rugs, carpets, &c., of various colours, figures, patterns, and sizes, for carriages, halls, parlours, hearths, and other purposes.	3008	5th Feb. 1807	James Essex.
Grand imperial aulæum, from 3 to 18 or 20 feet wide, without seam, and any length or colour, for decorating rooms, as for drapery curtains, and fringes, chairs, sofas, tables, &c.; or finished on one side for hangings, borders, and other species of decorations [ <i>made from linen and worsted cloth, glued together, and flock cemented on the surface</i> ].	3394	8th Oct. 1819	Henry Stubbs.
Making an article as a substitute for leather;—applicable to various other purposes [ <i>caoutchouc applied to filaments of flax, cotton, &amp;c., to produce an article resembling leather</i> ].	5045	29th Nov. 1824	Thomas Hancock.
Manufacture of cotton, linen, silk, and other fibrous substances, into fabrics applicable to various purposes [ <i>producing cotton or other flocked fabric, by combining the fibres, when arranged in layers, with starch or other glutinous substances</i> ].	6048	13th Dec. 1830	Thomas Walmsley.
Manufacture of hosiery, shawls, carpets, rugs, blankets, and other fabrics [ <i>by cementing short threads on to canvas, by means of dissolved caoutchouc</i> ].	7608	4th April 1838	William Angus Robertson.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH PULLING, DRESSING, &amp;c.—continued.</b>			
Manufacturing fabrics from linen, woollen, silk, and other fibrous materials [ <i>coating threads with caoutchouc, shellac, &amp;c., and attaching a silk cloth to the surface so prepared</i> ].	8002	15th March 1839	Christopher Nickels.
Forming a fabric applicable to various uses, by combining caoutchouc or certain compounds thereof with wood, whalebone, or other fibrous materials manufactured for that purpose, or with metallic substances manufactured or prepared [ <i>by means of a groundwork of platted wire, strips of wood, whalebone, cane, or other material, covered on each side by a sheet of cloth, caoutchouc, or other material, secured by a solution of caoutchouc</i> ].	8382	8th Feb. 1840	James Hancock.
Machinery for manufacturing cloths of wool and other fibrous substances [ <i>interlacing cardings of wool furnished by two carding-engines placed at right angles to each other, and fulling or milling the same</i> ].	9122	20th Oct. 1841	Junius Smith.
Manufacture of a substance or compound fabric applicable to making quilts, coverlets, and wadding for purposes of clothing or furniture [ <i>placing "down" between two covers, which are then quilted, and an ornamental cover stitched on the face</i> ].	9152	11th Nov. 1841	John Peter Booth.
Preparing surfaces of fabrics to be used in covering roofs, floors, and other surfaces [ <i>by a composition of oil, white-lead, whiting, and sand, called "oropholithe," and applying the same to canvas</i> ].	9331	26th April 1842	{ Raoul Armand Joseph Jean Comte de la Chatre. Richard Tappin Claridge. Richard Hodgson.
Manufacturing certain descriptions of cloth [ <i>by applying india-rubber cement, by pressure, to a continuous fleece of fibres</i> ].	9624	1st Feb. 1843	James Clark.
New or improved fabrics; also certain modifications of machinery for making the same, which modifications of machinery are applicable to the manufacture of woven fabrics.	9922	2nd Nov. 1843	Joshua Proctor Westhead.
Combination of materials to be used as a substitute for canvas and other surfaces employed as grounds for painting, some of which combinations are applicable to other purposes [ <i>applying mixtures or cements to canvas or other woven fabric</i> ].	10,054	14th Feb. 1844	Elijah Galloway.
Manufacture of fabrics from fibrous materials [ <i>by applying india-rubber or gutta-percha cement to cloths and layers of fibrous materials</i> ].	10,682	22nd May 1845	James Clark.
Manufacture of carpets, rugs, and piled fabrics [ <i>cementing the pile to strong cloth, by means of india-rubber or other adhesive substance</i> ].	10,879	10th Oct. 1845	James Taylor.
Combining materials to be employed in manufacturing oilcloths, table-covers, &c. [ <i>scrapings of leather reduced to pulp and made into sheets; combining the same with other materials</i> ].	10,958	20th Nov. 1845	Eugène François Vidocq.
Manufacturing and glazing cotton wadding; and its application to the making of mattresses.	11,115	28th Feb. 1846	Peter Armand le Comte de Fontainemoreau.
Fabric suitable for goods-wrappers, waggon-covers, and other like purposes; processes employed in the manufacture of the same [ <i>cementing paper to calico previously waterproofed and japanned</i> ].	11,438	5th Nov. 1848	Henry Henson.
Rendering certain materials applicable as a substitute for leather, paper, papier-mâché, and oil-cloth, in various articles of manufacture [ <i>making a fabric by cementing layers of cloth, by means of a composition of linseed oil, litharge, and umber</i> ].	11,958	11th Nov. 1847	Samuel Salmen.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH FULLING, DRESSING, &amp;c.—continued.</b>			
Manufacture of mats [ <i>making them of alternate rows of upright fibres and of laths</i> ].	12,172	1st June 1848	William James Barsham.
Manufacture of waddings [ <i>placing layers of cotton cardings together and applying a coat of size to their surface</i> ].	12,502	3rd March 1849	Edward Westhead.
Manufacture of strong cloths, quiltings, sacks, and cushions, in which manufacture caoutchouc forms an essential ingredient [ <i>combining bats or fleeces of cotton with india-rubber, to produce cloth suitable for ships' sails, and for other uses</i> ].	13,109	8th June 1850	William Newton.
Manufacture of carpets and other fabrics [ <i>cementing the pile on to the cloth</i> ] - - - - - }	13,402	12th Dec. 1850	{ Joseph Baldwin. George Collier.
Manufacture of woven and felted fabrics [ <i>coating "Canton flannels" and hosiery with caoutchouc or gummy matter</i> ].	13,612	3rd May 1851	William Edward Newton.
Manufacture of flocked fabrics - - - - -	13,923	27th Jan. 1852	William Brindley.
<b>III.—Shearing;—Fustian-cutting.</b>			
Shearing double coarse framework goods - - -	1096	22nd April 1775	{ Thomas Trentam. Francis Jones.
Cutting the warp, shute, or brocade floating silk on the face of velvet-shag, satin-cord, tabby-chain, lustring, or mixtures with gold and silver and with silk mixed, to form designs.	1175	31st Dec. 1777	Stephen Dolignon.
Machine for shearing fustians - - - - -	1595	20th March 1787	John Harmar.
Machinery for manufacturing wool, hemp, flax, silk, hair and cotton, until perfected in the loom and cut for raising a pile.	1876	15th May 1792	Edmund Cartwright.
Machine for cutting fustian and other goods of cotton, silk, woollen, or any mixture of them.	1916	2nd Nov. 1792	James Brown.
Machine for shearing cloth and other articles - -	1945	9th April 1793	Samuel Grissold Dorr.
Machine for cutting fustian and other goods of cotton, silk, woollen, or any mixture of them.	1967	3rd Dec. 1793	James Brown.
Machine for shearing fustians - - - - -	1982	29th March 1794	John Harmar.
Machine for opening velverets and other goods after being cut.	1999	15th July 1794	James Brown.
Machinery for shearing woollen cloth - - - -	2225	30th March 1798	James Douglass.
Machinery for cutting fustians - - - - -	2338	13th Aug. 1799	Edward Woods.
Machine for raising the pile on woollen, cotton, and other piece-goods, preparatory to shearing.	2539	15th Sept. 1801	John Jotham.
Machine for cropping or shearing woollen, cotton, linen, silk, and other cloths made with a nap requiring cropping or shearing.	2558	14th Nov. 1801	Isaac Sanford.
Machine for cutting, dressing, and finishing woollen cloth.	2627	31st May 1802	Joseph Fryer.
Machine for cutting fustians, velvet, velveret, and every species of fustian, velveret, and velveteens; also velvet, plush, and other cloth or goods made of cotton, silk, woollen, or any mixture of the same, usually cut in the manufactured state - }	3143	14th June 1803	{ George Tennant. Alexander Galloway.
Machine for shearing woollen and other cloths -	3258	21st Aug. 1809	Isaac Kellogg.
Machines called gigs or shearing-frames, used for dressing cloths and in the clothing manufacture.	3348	19th June 1810	Joseph Elisild Daniel.
Making machines for shearing cloth - - - -	3412	12th March 1811	James Mallory.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH FULLING, DRESSING, &amp;c.—continued.</b>			
Making a machine for cutting or shearing the nap or wool from broad and narrow cloths.	3478	7th Aug. 1811	James Mallory.
Machine for cutting, cropping, or shearing woollen and other cloths.	3550	24th March 1812	William Henry Hart.
Frame-machine for shearing woollen cloths - - -	3885	21st Feb. 1815	Jonah Dyer.
Shearing-machine - - - - -	3945	27th July 1815	John Lewis.
Machine for shearing or cropping woollen or other cloths.	3951	12th Aug. 1815	Stephen Price.
Machine for shearing woollen cloths - - -	4020	1st May 1816	John Collier.
Frames or machines used for shearing or cropping woollen and other cloths, and fixing the shears in such frames.	4158	12th Aug. 1817	George Adey.
Machinery for cropping or shearing woollen cloths -	4195	15th Jan. 1818	John Collier.
Shearing-machines for shearing woollen and other cloths - - - - -	4196	15th Jan. 1818	{ John Lewis. William Lewis. William Davis.
Machinery for shearing woollen and other cloths -	4487	11th July 1820	William Davis.
Machinery employed for shearing or cropping woollen cloth.	4552	18th April 1821	James Smith.
Machine for shearing and cropping woollen cloth -	4661	21st March 1822	Samuel Robinson.
Series of machinery for shearing and cutting } woollen cloths, kerseymers, and all other de- scription of cloths and piece-goods requiring the shears - - - - - }	4691	27th July 1822	{ Jonas Hobson. John Hobson.
Machines for shearing cloth - - - - -	4702	27th Sept. 1822	John Collier.
Machines for shearing or cropping woollen cloth -	4799	3rd June 1823	Thomas Miles.
Machinery for shearing woollen and other cloth -	4820	24th July 1823	William Davis.
Machinery for shearing woollen, silk, cotton, or other cloth and velvets.	4825	31st July 1823	John Bainbridge.
Machinery to facilitate the operation of cutting or grinding wool or cotton from the surfaces of cloths, kerseymers, cotton cloths, or mixtures of the same.	4872	22nd Nov. 1823	John Slater.
Shearing-machines - - - - -	4979	22nd June 1824	Humphrey Austin.
Machines for shearing or cropping woollen cloths -	5059	18th Dec. 1824	{ Joseph Gardner. John Herbert.
Machinery for shearing or cropping woollen or other cloths.	5213	16th July 1825	Thomas Sitlington.
Machine for shearing and cropping woollen and other cloths.	5802	15th Jan. 1828	Charles Hooper.
Machinery for cutting or shearing cloth, and other articles manufactured from wool or other raw materials.	5840	26th April 1828	William Marshall.
Preparing cloth [ <i>apparatus for raising the pile, prior to shearing</i> ].	5887	19th Aug. 1828	Edward Barnard.
Machinery for shearing, cropping, or cutting } woollen and other cloths and cassimeres - - }	5888	19th Aug. 1828	{ Philip Foxwell. William Clark. Benjamin Clark.
Shears used for cutting or cropping woollen cloth and other fabrics.	5874	21st Nov. 1829	William Clutterbuck.
Machinery for shearing woollen cloths and other fabrics.	5960	22nd July 1830	George Oldland.
Machinery for shearing woollen cloths and other fabrics.	6236	3rd March 1832	George Oldland.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH FULLING, DRESSING, &amp;c.—continued.</b>			
Machinery for cutting and cropping woollen and cotton cloths.	6521	11th Dec. 1833	Riley Carr.
Machinery for facilitating the operation of cropping the pile of woollen and some other fabrics.	6541	14th Jan. 1834	James Walton.
Apparatus for cutting the pile of fustians and other fabrics manufactured of cotton-wool and other fibrous materials - - - - -	6718	20th Nov. 1834	{ William Wells. George Scholefield.
Machinery for manufacturing woollen and some other cloths [ <i>shearing woollen and other cloths</i> ].	7327	21st March 1837	James Walton.
Machinery for shearing or cropping woollen and other cloths - - - - -	7572	22nd Feb. 1838	{ John Clay. Samuel Walker. Frederick Rosenborg.
Shears and other apparatus for cutting, cropping, and shearing certain substances [ <i>cloth</i> ].	9110	7th Oct. 1841	Thomas Wells Ingram.
Apparatus for shearing velvet or other piled goods, by power.	9502	27th Oct. 1842	Rowland Williams.
Machinery for cutting the pile or nap of cloth -	11,054	20th Jan. 1846	John Walker.
Machinery for cutting the pile or nap of velvets and other piled goods.	11,399	8th Oct. 1846	Robert Wilson.
Machinery for cutting fustians and certain other fabrics, to produce a piled surface - - -	12,946	26th Jan. 1850	{ Thomas Schofield. Henry Horabin.
Machinery for cutting velvets and other fabrics -	12,948	29th Jan. 1850	Richard Roberts.
Manufacture of cotton and other fibrous materials, and fabrics composed of such materials [ <i>cutting terry woven fabrics</i> ] - - - - -	13,313	2nd Nov. 1850	{ John Tatham. David Cheetham.
Manufacture of textile fabrics [ <i>pile-cutting machine</i> ] - - - - -	13,381	2nd Dec. 1850	{ Richard Shiers. James Heginbotham.
Machinery and apparatus for cutting fabrics - -	13,633	14th May 1851	{ Luke Smith. Mark Smith. Matthew Smith.
<b>IV.—Dressing.</b>			
1. ( <i>Woollen and other Cloth.</i> )			
Napping cloths, friezes, and other woollen manufactures.	237	1st Aug. 1684	James Delabadid.
Making, dressing, and instrating black plain silks called alamodes, ranforsees, and lustrings - -	261	4th Nov. 1688	{ Paulo Cloudealey. William Sherrard. Peter Duclen.
Engine to be used in oiling and dressing cloth -	271	27th Aug. 1691	John Tyzacke.
Engine for dressing silk when thrown and woven, and for finishing the same.	1013	15th April 1772	John Crumpler.
Dressing goods made with cotton weft on woollen, linen, or cotton warps, so as to produce a long shag on their surface.	1024	15th Oct. 1772	Richard Williams.
Carding, shearing, trimming, and dressing double coarse framework stockings, mits, gloves, caps, and pieces for coats, waistcoats, and breeches -	1096	22nd April 1775	{ Thomas Trentam. Francis Jones.
Machine for dressing woollen cloths - - -	1595	20th March 1787	John Harmar.
Machine for dressing muslin, calico, cotton, linen, woollen, silks, gauze, mohair, and other articles.	1783	16th Nov. 1790	Thomas Nightingale.
Machine for dressing woollen cloths - - -	1982	29th March 1794	John Harmar.
Cutting and dressing cloth - - - - -	2417	20th June 1800	{ Robert Fryer. James Bennett.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH FULLING, DRESSING, &amp;c.—continued.</b>			
Machine for raising the pile on woollen, cotton, or other piece-goods, preparatory to shearing; dressing or dubbing cloths, either wet or dry, otherwise than by yeren cards or pickards.	2539	15th Sept. 1801	John Jotham.
Machine for dressing woollen cloth - - -	2627	31st May 1802	Joseph Fryer.
Machines for dressing and brushing woollen cloth -	2766	30th May 1804	Samuel Godwin.
Improvement upon Thomas Johnson's patent machine for dressing cotton, silk, and other goods, by power.	2929	17th April 1806	James Kay.
Raising a nap or pile on woollen, cotton, and other cloths, by means of a substitute for teasels and cards - - - - -	2981	30th Oct. 1806	{ Isaac Sanford. Stephen Price.
Raising a nap or pile on woollen, cotton, and other cloths by means of a substitute for teasels and cards - - - - -	3015	20th Feb. 1807	{ Isaac Sanford. Stephen Price.
Machines called gigs, for dressing cloths - - -	3348	19th June 1810	Joseph Clisild Daniell.
Construction of a gig and of cards so called in the clothing and other manufactories, or other machines or instruments used in such manufactories.	4018	23rd April 1816	William Henry Lassalle.
Manufacturing cards for dressing cloth - - -	4118	13th May 1817	Richard Williams.
Substitutes for teasels, to be used in dressing woollen or other cloth or fabric.	4186	5th Dec. 1817	Stephen Price.
Wire gig-mills for dressing woollen and other cloths	4189	19th Dec. 1817	{ John Lewis. William Lewis. William Davis.
Machinery or instrument used for dressing woollen and other cloths.	4229	19th Feb. 1818	John Jones.
Machine for dressing and gigging woollen and other cloths.	4230	19th Feb. 1818	James Collyer.
Application of pointed wires or other pointed substances of a suitable nature, for raising the pile or face of woollen and other cloths or fabrics requiring such process - - - - -	4379	19th June 1819	{ John Lewis. William Lewis. William Davis.
Preparing and using wire cards for dressing cloth -	4391	17th July 1819	Joseph Clisild Daniell.
Process of dressing and polishing goods of woollen manufacture.	4535	3rd Feb. 1821	George Vizard.
Dressing piece-goods made from silk or worsted, or both.	4647	12th Feb. 1822	John Frederick Smith.
Machinery for dressing woollen and other cloths -	4820	24th July 1823	William Davis.
Dressing woollen or other cloths - - - - -	4863	13th Nov. 1823	Samuel Servill.
Machinery and instruments for dressing and cleansing woollen, cotton, linen, silk, and other cloths or fabrics; also applicable to the dressing and cleansing of machinery of various descriptions, and other articles or fabrics.	4897	27th Jan. 1824	John Jones.
Manufacture of a fabric named "British cashmere," [dressing].	4933	7th April 1824	Jonathan Schofield.
Apparatus for dressing various kinds of cotton, flaxen, woollen, or silk manufactures.	4941	14th April 1824	John Burn.
Machinery for raising or dressing cloth - - -	4986	7th July 1824	{ William Hirst. John Wood.
Heating woollen cloth in dressing, to give it a lustre	4999	11th Aug. 1824	John Fussell.
Dressing woollen cloth - - - - -	5038	20th Nov. 1824	Joseph Clisild Daniell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH PULLING, DRESSING, &amp;c.—continued.</b>			
Dressing woollen cloth - - - - -	5072	11th Jan. 1825	John Frederick Smith.
Machinery for raising the wool or pile on woollen or other cloths by improved application of the teasel or other points;—partly applicable to brushing, smoothing, and dressing such cloths - - -	5141	29th March 1825	{ Edward Sheppard. Alfred Flint.
Machinery for dressing cloth - - - - -	5201	8th July 1825	William Heycock.
Machinery for dressing cloth - - - - -	5203	8th July 1825	William Heycock.
Machinery for and process of raising the pile on woollen cloths and other fabrics - - -	5234	11th Aug. 1825	{ Samuel Lord. James Robinson. John Forster.
Machinery for raising and dressing cloth - - -	5268	21st Oct. 1825	{ William Hirst. John Wood. John Rogerson.
Dressing woollen and other cloths - - - - -	5504	8th June 1827	Joseph Clisild Daniell.
Raising the pile of woollen and other cloths, and dressing such cloths.	5504	20th Nov. 1827	Samuel Seville.
Dressing cloths, and machinery for the purpose -	5598	2nd Jan. 1828	Joseph Clisild Daniell.
Cleaning and dressing woollen cloths; apparatus for the purpose.	5606	15th Jan. 1828	George Daniel Harris.
Machinery for dressing woollen cloth - - - -	5706	18th Sept. 1828	Joseph Clisild Daniell.
Improvements on or additions to gig-mills for raising woollen cloths and other fabrics - - -	5743	18th Dec. 1828	{ Joseph Charles Worth. Joshua Charles Worth. Samuel Andrew Mellor.
Apparatus applicable to machinery for dressing woollen or other cloths ("Operameter").	5772	20th Feb. 1829	Samuel Walker.
Machine for dressing cloths - - - - -	5773	2nd March 1829	George Haden.
Machinery applicable for dressing woollen cloth -	5795	26th May 1829	Joseph Clisild Daniell.
Machinery applicable for dressing woollen cloth -	5812	8th July 1829	Joseph Clisild Daniell.
Machinery for dressing woollen cloths - - - -	5835	21st Aug. 1829	John Jones.
Dressing woollen cloths - - - - -	5873	21st Nov. 1829	Thomas Gethen.
Machinery applicable to the manufacturing of woollen cloths.	5897	6th Feb. 1830	Joseph Clisild Daniell.
Manufacturing woollen cloth [dressing, by winding the cloth upon a large drum made to revolve in boiling water].	5907	27th Feb. 1830	Henry Hirst.
Machinery for dressing woollen cloths and other fabrics.	5980	22nd July 1830	George Oldland.
Machinery for dressing or roughing woollen cloth -	6055	23rd Dec. 1830	Daniell Papps.
Machinery for preparing the pile or face of woollen or other cloths.	6058	23rd Dec. 1830	John Ferrabee.
Machine for raising or brushing woollen cloths and other goods.	6225	16th Feb. 1832	Richard Atkinson.
Gig-machines for dressing woollen cloths - - -	6233	1st March 1832	Samuel Walker.
Machinery for dressing woollen cloths and other fabrics.	6236	3rd March 1832	George Oldland.
Making and constructing gig or raising machines, for raising the nap or pile of, and for brushing and dressing woollen cloths.	6237	8th March 1832	William Wells.
Machinery for preparing and dressing woollen cloth and other fabrics.	6327	3rd Nov. 1832	George Oldland.
Machinery for dressing woollen and other cloths -	6521	11th Dec. 1833	Riley Carr.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH PULLING, DRESSING, &amp;c.—continued.</b>			
Machinery for facilitating the operation of raising and dressing the pile of woollen and other fabrics.	6541	14th Jan. 1834	James Walton.
Machinery applicable to the manufacturing of woollen cloth [ <i>dressing</i> ].	6581	24th Feb. 1834	George Haden.
Cards for raising the pile of woollen and other cloths.	6584	27th March 1834	James Walton.
Machinery for dressing woollen and other fabrics -	6586	31st March 1834	William Hirst.
Dressing woollen cloths; apparatus for effecting the same.	6607	13th May 1834	James Dutton.
Machinery for dressing woollen cloth - - -	6670	1st Sept. 1834	John Beard.
Process of manufacturing or preparing woollen cloth [ <i>dressing</i> ].	6685	25th Sept. 1834	Joseph Clisild Daniell.
Machinery used for raising the pile of woollen and other cloths.	6710	12th Nov. 1834	James Walton.
Machinery for dressing woollen or other cloths -	6776	25th Feb. -1835	William Davis.
Machinery for cleansing, plaining, polishing, and dressing woollen and other cloths.	6796	25th March 1835	William Weekes.
Dressing and setting the face of woollen or other cloths.	6915	23rd Oct. 1835	James Walton.
Dressing woollen cloths and other woven fabrics -	7116	13th June 1836	Alexander Ritchie.
Machinery applicable to the dressing of woollen and other cloths - - - - -	7145	13th July 1836	{ Oliver Bird. William Lewis.
Machinery for dressing worsted and other woven fabrics.	7192	22nd Sept. 1836	John Smith.
Machinery for manufacturing woollen and some other cloths [ <i>raising the nap</i> ].	7327	21st March 1837	James Walton.
Dressing woollen and other cloths or fabrics - -	7336	4th April 1837	William Weekes.
Improvements in the manufacture of woollen cloth, which improvements apply both to weaving and dressing woollen cloth.	7565	8th Feb. 1838	James Dutton.
Machinery for dressing woollen and other cloths -	7572	22nd Feb. 1838	{ John Clay. Samuel Walker. Frederick Rosenberg.
Machinery for dressing woollen and other cloths -	7594	5th March 1838	{ William Lewis. John Ferrabee.
Improvements connected with the use of the press in the process of dressing woollen cloths.	7808	13th Sept. 1838	James Wapshare.
Machinery for dressing and cleansing woollen cloths	8059	7th May 1839	{ William Davis. George Kinder.
Machinery for raising the pile of woollen and other cloths.	8174	1st Aug. 1839	Joseph Webb.
Machinery for raising pile on woollen and other fabrics.	8355	21st Jan. 1840	Edward Halliley.
Manufacture of woollen and other fabrics, or fabrics of which wool or fur forms a principal component part; machinery employed for the purpose [ <i>machine for raising the pile of woollen cloths</i> ].	8367	14th Feb. 1840	Thomas Robinson Williams.
Manufacture of woollen fabrics, or fabrics of which wools, furs, or hairs are the principal components; machinery used therein [ <i>machine for raising the pile of woollen cloth</i> ].	8646	24th Sept. 1840	Thomas Robinson Williams.
Machinery or apparatus employed in the manufacture of cloth - - - - -	9078	8th Sept. 1841	{ Joseph Garnett. John Mason.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH FULLING, DRESSING, &amp;c.—continued.</b>			
Machinery for raising velvets and other piled goods, by power.	9502	27th Oct. 1842	Rowland Williams.
Dressing goods made of cotton-wool, silk, and other fibrous materials.	10,059	24th Feb. 1844	Alexander Alliott.
Dressing, drying, and winding manufactured fabrics of wool, flax, cotton, and other fibrous materials.	10,231	19th June 1844	William Sutcliffe.
Machinery for raising the nap or pile on woollen, cotton, or other cloths; also for brushing and cleansing same - - - - -	10,500	28th Jan. 1845	{ Nathan Whiteley. Joseph Hopkinson.
Preparation and manufacture of fibrous materials for the production of a fabric in lieu of horsehair seating and cloth [ <i>machinery for varnishing and dressing fabrics during the operation of drying</i> ].	10,591	7th April 1845	Thomas Robinson Williams.
Dressing woollen and other cloths - - - - -	10,869	10th Oct. 1845	Joseph Clisild Daniell.
Dressing goods or fabrics - - - - -	11,610	10th March 1847	Robert Jones.
Materials and processes to be employed in the dressing and clearing of textile fabrics.	11,827	31st July 1847	Hector Sandeman.
Dressing woven fabrics - - - - -	12,422	16th Jan. 1849	Peter Augustine Godefroy.
Dressing or getting up fabrics of cotton or silk, and cotton and silk combined - - - - -	12,426	18th Jan. 1849	{ John Francis Bottom. John Dearman Dunnichiff.
Manufacture of woollen cloth [ <i>combining heating-apparatus with machinery used for washing cloths previous to dressing the same</i> ].	12,467	10th Feb. 1849	John Giblett.
Dressing and cleaning worsted, or worsted mixed with cotton, and other fabrics after they have been woven.	12,903	19th Dec. 1849	William Ackroyd.
Dressing woollen cloths - - - - -	12,943	26th Jan. 1850	Edwin Heycock.
Machine for finishing grey and bleached linen cloths [ <i>machine for scribbling, cleaning, and dressing cloth</i> ].	12,945	26th Jan. 1850	Winceslas le Baron Traux de Warden.
Manufacture of textile goods or fabrics; machinery or apparatus connected therewith [ <i>stiffening or dressing goods while being woven</i> ].	12,972	21st Feb. 1850	John Slack.
Machinery for raising the pile upon woven and felted fabrics.	13,047	18th April 1850	Thomas Ross.
Machinery for raising a nap on cotton, woollen, silk, and other fabrics.	13,343	14th Nov. 1850	Robert Howarth.
Dressing piece goods - - - - -	13,360	19th Nov. 1850	Henry William Ripley.
Manufacture of cloths; preparation of materials to be used for the purpose [ <i>applying distilled oleic acid combined with alkali, in place of soap</i> ].	14,294	18th Sept. 1852	James Pillans Wilson.
<b>2. (Lace and Hosiery.)</b>			
Carding, trimming, and dressing double coarse framework goods - - - - -	1096	22nd April 1775	{ Thomas Trentam. Francis Jones.
Improvements in woollen stocking-pieces, by raising a nap or pile in resemblance of broad cloths.	3290	20th Dec. 1809	Charles Frederick Davies.
Machine for dressing, getting up, or finishing framework-knitted goods manufactured on the stocking-frame - - - - -	3675	30th March 1813	{ Robert Hall. Samuel Hall.
Method of improving lace or net, or other fabrics with holes or interstices, made from thread or yarn, whether fabricated from vegetable, animal, or other substances.	4178	3rd Nov. 1817	Samuel Hall.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH FULLING, DRESSING, &amp;c.—continued.</b>			
Machinery for finishing cotton, Angola and lambs'-wool stockings, and other framework goods; applying known power for working the same.	4261	19th May 1818	Thomas Brown Milnes.
Method of improving lace, net, muslin, calico, and other manufactured goods whose fabric is composed of holes or interstices.	4779	18th April 1823	Samuel Hall.
Removing fibres from thread of flax, cotton, silk, or other fibrous substance composing lace, net, or other similar fabric.	4842	11th Sept. 1823	Bryan Donkin.
Apparatus for singeing lace, and for other purposes.	4881	13th Dec. 1823	Jarvis Boot.
Apparatus for singeing cotton and other fabrics.	5856	7th Oct. 1829	Paul Driscroizilles.
Dressing, starching, cleaning, and drying lace or net, known in the trade by the term of getting up lace or net.	6959	16th Dec. 1835	Ovid Topham.
Finishing hosiery and other goods made from lambs'-wool, Angola, and worsted yarn.	7017	8th March 1836	William Bates.
Machinery for dressing or getting up, or finishing, large pieces of lace nets, called bobbin net or twist net, warp net and fattings.	7155	27th July 1836	John Hall.
Finishing hosiery and other looped fabrics.	8099	4th June 1839	William Bates.
Dressing and getting up hosiery goods, comprising shirts, drawers, stockings, socks, gloves, and other looped fabrics made from merino, lambs'-wool, cotton, and other yarns; machinery for raising the nap or pile on the same.	9597	19th Jan. 1843	William Bates.
Dressing and getting up hosiery and goods manufactured of lambs'-wool and other yarns; machinery to raise the nap on the same.	10,113	19th March 1844	William Bates.
Dressing or finishing lace and other fabrics.	11,483	14th Dec. 1846	John Keely, junior.
Raising a pile on knit and looped fabrics.	13,629	10th May 1851	{ Thomas Haines. John Webster Hancock. Albert Thornton. James Thornton.
Raising pile on looped fabrics and other weavings.	13,873	19th Dec. 1851	{ John Thornton. James Thornton.
<b>V.—Sizing, damping, stretching, and drying.</b>			
Making kilns capable of being used in drying and starching at one time, with one fire, and thereby lessen the consumption of wood and straw.	85	23rd July 1635	Nicholas Halse.
Drying, tentering, and setting woollen goods after they have been dyed or whitened.	1230	12th July 1779	James Lodge.
Machinery for drying and tentering cloth, crapes, cottons, velvets, silks, stuffs, and other woven goods.	1390	2nd Oct. 1783	Joshua Green.
Stiffening and drying dyed muslins.	2328	16th July 1799	John Ashworth.
Drying piece-goods.	2567	2nd Jan. 1802	Alexander Bryce.
Straining or stretching woollen cloth for cropping or shearing; straining other piece-goods.	2791	30th Oct. 1804	Jacob Buffington.
Frame for stretching cloth of linen, cotton, woollen, or a mixture of either, and whether brown, bleached, printed, stained, or dyed; also all descriptions of piece-goods.	3111	3rd March 1808	Samuel Thomson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH FULLING, DRESSING, &amp;c.—continued.</b>			
Giving transverse elasticity to cassimere and broad cloth.	3290	20th Dec. 1809	Charles Frederick Davies.
Erecting racks for racking woollen cloth and other articles.	3939	15th July 1815	William Lewis.
Apparatus adapted to facilitate the drying of calicoes, muslins, linens, and other similar fabrics.	4780	19th April 1823	William Southworth.
Stretching-machine - - - - -	6104	14th April 1831	Samuel Morand.
Stretching-machine - - - - -	6593	12th April 1834	Samuel Morand.
Machinery for drying cotton, linen, and other similar manufactured goods.	6624	10th June 1834	Thomas Ridgway Bridson.
Machinery for drying calicoes and other fabrics -	6626	14th June 1834	Matthew Bush.
Machinery for stiffening woven or manufactured goods - - - - -	6870	28th July 1835	{ Robert Charlton. Alfred Charlton.
Tentering, stretching, or keeping out cloth to its width (made either of cotton, silk, wool, or any other fibrous substances), by machinery - -	6980	14th Jan. 1836	{ John Burns Smith. John Smith.
Tentering, stretching, or keeping out cloth to its width (made either of cotton, silk, wool, or any other fibrous substances), by machinery - -	7165	10th Aug. 1836	{ John Burns Smith. John Smith.
Machinery or apparatus adapted to facilitate the operation of drying calicoes, muslins, linens, or other similar fabrics [ <i>extension of William Southworth's patent, No. 4780, for five years, from 19th April 1837</i> ].	7348	18th April 1837	Edmund Haworth, junior.
Machinery whereby cloth or woven fabrics may be stretched and dried in an extended state.	7500	5th Dec. 1837	John Hall.
Expressing or extracting liquids or moisture from woollen, cotton, and other stuffs and substances, in the manufactured or unmanufactured state.	7597	16th Feb. 1838	Johann Gottlob Seyrig.
Discharging gum from silks, raw and manufactured.	7800	26th March 1838	Michael Wheelwright Ivison.
Machinery for stretching and drying woven fabrics -	7853	26th May 1838	{ Thomas Ridgway Bridson. William Latham.
Construction and arrangement of machinery for stretching and drying woven goods or fabrics;—partly applicable to other purposes.	7855	29th May 1838	Thomas Ridgway Bridson.
Improvements partly applicable to the stretching of fabrics.	7851	12th June 1838	Benjamin Ledger Shaw.
Application of heat for drying wool, woollen yarn, woollen cloths, and other articles.	7806	13th Sept. 1838	James Wapshare.
Machinery or apparatus for stretching and drying woven fabrics.	7948	24th Jan. 1839	John Horrocks Ainsworth.
Machinery for drying cotton, woollen, and other fabrics, also other fibrous substances.	8081	25th May 1839	Benjamin Hick.
Machinery for stretching fabrics - - - - -	8251	2nd Nov. 1839	Samuel Morand.
Machinery for drying and damping woven goods or fabrics.	8612	27th Aug. 1840	Hugh Unsworth.
Drying woollen and other fabrics - - - - -	8797	19th Jan. 1841	Thomas Robinson.
Stretching cloths - - - - -	8898	22nd March 1841	Moses Poole.
Drying wool, cotton, and other fibrous materials, in the manufactured and unmanufactured state.	8936	27th April 1841	Thomas Robinson.
Stiffening cotton and other fibrous substances, textile and other fabrics.	9194	23rd Dec. 1841	Henry Hough Watson.
Machinery for stretching fabrics - - - - -	9269	26th Feb. 1842	Samuel Morand.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH FULLING, DRESSING, &amp;c.—continued.</b>			
Apparatus for drying woollen, cotton, silk, and different fibrous materials and other substances, and stretching certain fibrous materials - - }	9652	2nd March 1843	{ John Keely, junior. Alexander Alliott.
Stretching and drying goods made of cotton-wool, silk, and other fibrous materials.	10,059	19th Feb. 1844	Alexander Alliott.
Machinery for tentering and stretching cloths or fabrics.	10,149	18th April 1844	John Smith.
Machinery for drying bleached cotton and other goods.	10,929	6th Nov. 1845	John Campbell.
Machinery for rubbing, stretching and equalizing the breadth of cloth made from flax, hemp, jute and other fibrous materials.	11,193	5th May 1846	Peter Carmichael.
Stretching silk - - - - -	11,714	24th May 1847	Henry Le Lievre.
Machinery for stretching and drying woven fabrics -	11,752	15th June 1847	Frederick Theodore Philippi.
Means, processes, and apparatus for preventing the escape of heat through boilers; apparatus for saving and applying the lost heat, and in some cases directing the same [ <i>hydro-extractor; machine for stretching fabrics</i> ].	12,062	10th Feb. 1848	Felix Douche.
Apparatus for clearing and steaming animal or vegetable fibrous substances, either in a raw or manufactured state.	12,461	8th Feb. 1849	Joseph Barnes.
Method or process of drying woven and other fabrics; machinery or apparatus for performing the same; —partly applicable to stretching woven fabrics.	12,518	14th March 1849	William Gratrix.
Machinery applicable to operations in sizing piece-goods - - - - - }	12,565	16th April 1849	{ Thomas Cocksey. James Nightingale.
Machinery for drying woven fabrics - - -	12,756	30th Aug. 1849	Malcom Macfarlane.
Improvements applicable to drying goods - - -	12,806	12th Oct. 1849	Michael Fitch.
Machinery or apparatus for stretching woollen, cotton, and other woven fabrics [ <i>and beetling the same</i> ] - - - - - }	13,248	5th Sept. 1850	{ James Mather, junior. Thomas Edmeston.
Preparation of cotton and other fabrics and fibrous materials.	13,296	24th Oct. 1850	John Mercer.
Machinery for drying linen and other fabrics -	13,372	30th Nov. 1850	Joseph Eugène Chabert.
Machinery for stretching and opening textile or woven fabrics - - - - - }	13,434	23rd Dec. 1850	{ James Slater. John Nuttall Slater.
Apparatus used when stretching and drying fabrics	13,475	30th Jan. 1851	Samuel Morand.
Stretching and drying textile fabrics or materials; machinery employed therein.	13,694	17th July 1851	John McNab.
Drying gloves and other articles of hosiery - - -	13,854	10th Dec. 1851	James Webster.
Damping, stiffening, opening, and spreading woven fabrics - - - - - }	14,022	11th March 1852	{ Colin Mather. Ernest Rolfs.
Machinery or apparatus for stretching and drying woven fabrics.	14,097	29th April 1852	James Fletcher.
Machinery for stretching and drying woven fabrics -	14,111	1st May 1852	Henry Bridson.
Manufacture and treatment or finishing of textile fabrics and materials; machinery or apparatus used therein [ <i>stretching, straining, and drying fabrics</i> ].	14,121	8th May 1852	John Campbell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH FULLING, DRESSING, &amp;c.—continued.</b>			
<b>VI.—Finishing, pressing, calendering, and glazing.</b>			
Glossing figured and plain satins - - - -	193	3rd April 1639	Peter Ladore.
Engine for glazing and smoothing linen cloth, calico, silks, and stuffs bare of wool.	339	6th April 1695	Peter Oliver.
Instrument of iron to be used in the trade of pressing, the planks or plates being placed in the body of the instrument and a fire being made to encompass the same, will heat the planks or plates in so true a degree as wholly to prevent the burning of the goods; and the great loss frequently sustained by the traders in the woollen manufacture thereby.	456	27th June 1723	Isaac Mills.
Machine for glazing or polishing cottons, linens, and mixtures, or cloth made either of cotton or linen, or of cotton and linen mixed, or of other materials, and of any breadth to two yards wide.	1647	22nd April 1788	David Yates.
Machine for glazing linens, cottons, calicoes, muslins, stuffs of linen and cotton, buckrams, and other articles of British manufacture, as well as those of India.	1760	6th Nov. 1790	George Singleton.
Machine for calendering and glazing muslin, calico, cotton, linen, woollen, silk, and gauze, mohair, and other articles.	1763	16th Nov. 1790	Thomas Nightingale.
Machine or apparatus and certain chemical compositions, for the purpose of making various kinds of woollen cloths, linens, cottons, silks, hair, furs, muffs, hats, floor-cloths, sail-cloths, carpets, and imitation of leathers, wearing-apparel, and furniture.	1846	23rd Jan. 1792	Joseph Booth.
Machine or apparatus and certain chemical compositions and processes for the purpose of making, manufacturing, and completing in a manner entirely new, various kinds of woollen and other cloths, linens, cottons, silks, muffs, hats, and other parts of wearing-apparel, floor-cloths, sail-cloths, carpets, and imitation of or substitute for leather, particularly adapted for making ladies' and gentlemen's gloves, and a great variety of other articles, in the manufacture of many of which divers materials or substances are made use of which have never before been applied for those purposes.	1888	12th June 1792	Joseph Booth.
Machine for finishing bleached, dyed, and printed muslins.	2183	4th July 1797	Joseph Slater.
Finishing dyed muslins - - - - -	2328	16th July 1799	John Ashworth.
Glazing calicoes, cottons, muslins, linens, &c. -	2376	4th Feb. 1800	Jabez Carter Hornblower.
Finishing cloth - - - - -	2417	20th June 1800	{ Robert Fryer. James Bennett.
Manufacturing and finishing goods made from cotton, cotton and woollen, cotton and silk, linen and mohair, so as to imitate ermine or fur.	2545	30th Oct. 1801	Thomas Fryer.
Machine for finishing woollen cloth - - -	2627	31st May 1802	Joseph Fryer.
Machine for finishing piece-goods or other flexible articles or materials of the like description, by glazing, burnishing, graining, or making impressions on the surface thereof - - - -	3455	11th June 1811	{ Joseph Taite. Bryan Donkin. William Dixon.
Machine for ploughing, laying on colours or grounds, and pressing to produce an even surface, on silk, linen, woollen, cotton, and various articles.	3777	8th Feb. 1814	Timothy Harris.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH FULLING, DRESSING, &amp;c.—continued.</b>			
Machinery for waxing calico or other fabric previous to glazing.	4089	14th Dec. 1816	William Dean.
Machinery for finishing cotton, Angola, and lambs'-wool stockings, and other frame-work goods.	4261	19th May 1818	Thomas Brown Milnes.
Application of mechanical powers for laying, smoothing, and polishing the face of woollen or other cloth or fabric, also cleansing such cloth or fabric at the same time - - - - -	4378	19th June 1819	{ William Lewis. John Lewis. William Davis.
Process for finishing manufactured piece-goods -	4401	18th Oct. 1819	Christopher Hilton.
Process of polishing goods of woollen manufacture -	4535	3rd Feb. 1821	George Vizard.
Series of machinery for finishing woollen cloths, cassimeres, and all other descriptions of cloths and piece goods - - - - -	4691	27th July 1822	{ Jonas Hobson. John Hobson.
Finishing woollen cloths - - - - -	5072	11th Jan. 1825	John Frederick Smith.
Machinery for finishing cloth - - - - -	5201	8th July 1825	William Heycock.
Machinery for finishing cloth - - - - -	5203	8th July 1825	William Heycock.
Pressing woollen cloths and other fabrics - -	5234	11th Aug. 1825	{ Samuel Lord. James Robinson. John Forster.
Finishing woollen cloths; apparatus for the purpose	5606	15th Jan. 1828	George Daniel Harris.
Machinery adapted for finishing linen or cotton yarn and goods.	5620	21st Feb. 1828	David Bentley.
Machinery for finishing cloth and other articles manufactured from wool and other raw materials.	5640	26th April 1828	William Marshall.
Machinery for finishing woollen and other cloths and cassimeres - - - - -	5688	19th Aug. 1828	{ Philip Foxwell. William Clark. Benjamin Clark.
Machinery for pressing and finishing woollen cloths	5709	25th Sept. 1828	John Jones.
Gig-mills for finishing woollen cloths and other fabrics - - - - -	5743	18th Dec. 1828	{ Joseph Charlesworth. Joshua Charlesworth. Samuel Andrew Mellor.
Machinery for finishing woollen cloths - - - -	5835	21st Aug. 1829	John Jones.
Process for giving a metallic surface to cotton, silk, linen, and other fabrics.	5884	26th Jan. 1830	John Yates.
Preparing or finishing piece-goods made from wool, silk, or other fibrous materials.	5901	12th Feb. 1830	John Frederick Smith.
Machinery for finishing woollen cloths and other fabrics.	6236	3rd March 1832	George Oldland.
Machinery for finishing woollen cloth and other fabrics.	6327	3rd Nov. 1832	George Oldland.
Finishing silks, woollen cloths, stuffs, and other substances requiring heat and pressure.	6553	8th Feb. 1834	Jacques François Victor Gerard.
Machinery for finishing woollen and other fabrics -	6586	31st March 1834	William Hirst.
Finishing woollen cloths; apparatus for effecting the same.	6607	13th May 1834	James Dutton.
Combination of processes for dressing or finishing certain goods.	6734	23rd Dec. 1834	Joseph Ferguson.
Machinery for plaining and polishing woollen and other cloths.	6796	25th March 1835	William Weekes.
Machinery for finishing woven or manufactured goods - - - - -	6870	28th July 1835	{ Robert Charlton. Alfred Charlton.
Preventing the colour of woollen cloths becoming darker near the list than in the middle, in the process of heating them in water or by steam, on rollers.	6899	1st Oct. 1835	Edwin Hoare.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH PULLING, DRESSING, &amp;c.—continued.</b>			
Finishing and setting the face on woollen or other cloths.	6915	23rd Oct. 1835	James Walton.
Finishing woollen cloths and other woven fabrics -	7116	13th June 1836	Alexander Ritchie.
Machinery for finishing woollen and other cloths -	7327	21st March 1837	James Walton.
Finishing woollen and other cloths or fabrics -	7338	4th April 1837	William Weekes.
Machinery for finishing woollen and other cloths -	7572	22nd Feb. 1838	{ John Clay. Samuel Walker. Frederick Rosenborg.
Machinery for finishing woven fabrics - - -	7653	26th May 1838	{ Thomas Ridgway Bridson. William Latham.
Construction and arrangement of machinery for finishing woven goods or fabrics;—partly applicable to other purposes.	7655	29th May 1838	Thomas Ridgway Bridson.
Finishing woollen cloths - - - - -	7681	12th June 1838	Benjamin Ledger Shaw.
Improvements connected with the use of the press in the process of finishing woollen cloths.	7808	13th Sept. 1838	James Wapshare.
Machinery or apparatus for finishing woven fabrics	7943	24th Jan. 1839	John Horrocks Ainsworth.
Mangling, calendering, and glazing cotton, linen, woollen, and other goods; machinery used for the purpose.	8148	8th July 1839	Peter Rothwell Jackson.
Finishing cotton, linen, woollen, and other goods; machinery for the purpose.	8184	8th July 1839	Peter Rothwell Jackson.
Producing surfaces on fabrics - - - -	8441	23rd March 1840	Charles Keene.
Machinery for finishing woven goods - - -	8612	27th Aug. 1840	Hugh Unsworth.
Finishing cotton and other fibrous substances -	9194	21st Dec. 1841	Henry Hough Watson.
Machinery for finishing velvets and other piled goods, by power.	9502	27th Oct. 1842	Rowland Williams.
Machine and apparatus for increasing and fastening the gloss of woollen, worsted, and fancy cloths, by the application of steam alone.	9778	15th June 1843	Thomas Mitchell.
Finishing silks and other fabrics - - - -	9843	15th July 1843	James Overend.
Manufacture of flannel [ <i>finishing flannels</i> ] - -	9934	9th Nov. 1843	Samuel Archer.
Finishing silks and other fabrics - - - -	10,052	13th Feb. 1844	James Overend.
Process of finishing fustians or beaverteens, satin tops, or other similar cotton fabrics.	10,290	15th Aug. 1844	John Whitehead.
Calendering - - - - -	10,318	14th Sept. 1844	{ Robert Ferguson. John Clark.
Finishing woollen and other cloths - - -	10,869	10th Oct. 1845	Joseph Clisild Daniell.
Preparing and finishing piece-goods or woven fabrics.	10,904	31st Oct. 1845	James Hardcastle.
Machinery for finishing bleached cotton and other goods.	10,929	6th Nov. 1845	John Campbell.
Machinery for finishing velvets and other piled goods or fabrics.	11,254	22nd June 1846	Joseph Renshaw.
Machinery for finishing certain woven fabrics -	11,424	22nd Oct. 1846	{ John Patterson Reid. Thomas Johnson.
Finishing silk, cotton, and other fabrics - - -	11,431	2nd Nov. 1846	Noël Etienne Aime Paret.
Manufacture of looped and woven fabrics [ <i>pressing, getting up, and finishing hosiery and woven fabrics</i> ] }	11,572	8th Feb. 1847	{ Uriah Clarke. Henry Barber.
Machinery to perform the process of beetling and the like.	11,608	5th March 1847	Richard Roberts.
Finishing goods or fabrics - - - - -	11,610	10th March 1847	Robert Jones.
Finishing plush - - - - -	11,714	24th May 1847	Henry Le Levriere.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CLOTH PULLING, DRESSING, &amp;c.—continued.</b>			
Machinery for finishing woven fabrics - - -	11,752	15th June 1847	Frederick Theodore Philippi.
Finishing woven fabrics - - - - -	12,422	16th Jan. 1849	Peter Augustin Godefroy.
Finishing woven and other fabrics; machinery for the purpose.	12,518	14th March 1849	William Gratrix.
Machinery for finishing woven fabrics - - -	12,758	30th Aug. 1849	Malcolm Macfarlane.
Finishing woven fabrics - - - - -	12,871	3rd Dec. 1849	Walter Crum.
Machinery for finishing textile and other fabrics -	12,942	26th Jan. 1850	John Dalton.
Finishing woollen cloths - - - - -	12,943	26th Jan. 1850	Edwin Heycock.
Machine for finishing grey and bleached linen cloths.	12,945	26th Jan. 1850	Winceslas le Baron de Traux de Warden.
Construction of machines for finishing woven fabrics - - - - -	12,956	31st Jan. 1850	{ Thomas Bury. Nathan Ramsden.
Machinery for finishing woollen, cotton, and other woven fabrics - - - - -	13,248	5th Sept. 1850	{ James Mather, junior. Thomas Edmeston.
Finishing woven fabrics; machinery or apparatus used therein.	13,255	12th Sept. 1850	Thomas Lucas Paterson.
Machinery for finishing cotton, linen, and woollen fabrics - - - - -	13,310	2nd Nov. 1850	{ William Mather. Colin Mather. Ferdinand Kaselowsky.
Manufacture of cotton and other fibrous materials, and fabrics composed of such materials [ <i>finishing plush</i> ] - - - - -	13,313	2nd Nov. 1850	{ John Tatham. David Cheetham.
Finishing piece-goods - - - - -	13,360	19th Nov. 1850	Henry William Ripley.
Treatment or finishing of textile fabrics and materials	13,897	20th Jan. 1852	James Aikman.
Machinery for finishing woven fabrics - - -	14,111	1st May 1852	Henry Bridson.
Manufacture and treatment or finishing of textile fabrics and materials; machinery or apparatus used therein [ <i>producing the "elastic finish"</i> ].	14,120	8th May 1852	John Campbell.
Treatment or finishing of textile fabrics; machinery used therein.	14,121	8th May 1852	John Campbell.
Treatment or finishing of textile fabrics and materials.	14,129	22nd May 1852	David Dick.
Manufacture of hat plush and other similar silk cloths [ <i>finishing</i> ].	14,132	22nd May 1852	Louis Victor Ruzé.
<b>VII.—Measuring, folding, and plaiting.</b>			
Machinery for measuring, folding, and plaiting or lapping goods or fabrics.	8697	10th Nov. 1840	William M'Kinley.
Measuring and folding woven fabrics; machinery and instruments for the purpose [ <i>disclaimed in the specification</i> ].	8796	19th Jan. 1841	James Smith.
Machinery for lapping and folding woven textures and surface fabrics.	9643	23rd Feb. 1843	Henry Clarke.
Arranging or folding certain narrow fabrics - -	11,663	20th April 1847	John Fisher.
Machine for folding - - - - -	13,315	7th Nov. 1850	James Black.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES AND OTHER ROAD CONVEYANCES.</b>			
<b>I.—Building and ornamenting.</b>			
<b>1. (Coaches and other Passenger Carriages.)</b>			
Making the wheels of coaches and other carriages approach to and recede from each other; stopping the hinder wheels from turning; hanging the bodies of carriages by springs of steel.	31	7th Jan. 1625	Edward Knapp.
Carriage of coaches and all other things going upon wheels.	68	29th Jan. 1634	David Ramsey.
Carriages, coaches, or chariots with two or four wheels, made up with rollers, cranes, and springs.	143	3rd March 1664	Abraham Hill.
Engine like a calash, with two or more wheels, and not liable to overturn.	236	19th July 1684	John Clignett.
Carriage, and way of hanging coaches and chariots	267	13th April 1691	John Greene.
Carriages drawn or driven by man or beast, and on one or more wheels.	269	12th June 1691	John Greene.
Engine to prevent the overturning of coaches, carts, or waggons.	350	21st April 1697	Colonel Bartholomew Ogilby.
Causing the bodies of coaches, calashes, chaises, waggons, and other carriages, to remain erect even though the wheels or carriages may be upset.	370	8th April 1704	Benjamin Habakkuk Jackson.
Invention for the more easy drawing of any burthens in and upon any carriages upon wheels.	381	10th Sept. 1707	John Cole.
Causing the bodies of coaches, calashes, chaises, waggons, and other carriages, to remain erect even though the wheels or carriages may be upset.	399	5th May 1715	Benjamin Habakkuk Jackson.
Vehicles or wheel carriages, "double or single runners," which will not overturn, even on bad roads.	415	17th July 1717	James Frengrouse.
Coaches and chaises - - - - -	434	12th Aug. 1721	Isaac de la Chaumette.
Machine called a poiser, to be fixed to any coach, chariot, or chaise, to prevent the same overturning.	451	23rd Sept. 1722	Richard Dunning.
Chaise or chair with two wheels, drawn by one horse between a pair of shafts.	500	27th July 1728	William Chapman.
Sedan-chair, fixed upon a wheel carriage and springs, to be drawn by horses.	570	13th May 1740	John Tull.
Double-shaft and pole carriage, with two wheels, and drawn by two horses harnessed abreast.	572	9th Aug. 1740	William Crispe.
Rendering safe and easy the riding in a chaise, chair, or such-like vehicle.	618	26th July 1746	Thomas Hawkes.
Chair or carriage for one person to travel in, furnished with a wheel, and drawn by one horse.	655	6th April 1750	John Thompson.
Making coaches and other wheeled carriages - -	687	22nd Jan. 1754	{ Samuel Butler. John Wright.
Making chariots, coaches, post-chaises, sedan-chairs, and other carriages, and covering them with copper, iron, or brass, instead of leather -	732	21st Dec. 1758	{ James Poole. William Ringsted.
Carriage upon which to hang the bodies of coaches and other conveyances.	811	16th April 1764	Owen O'Keeffe.
Supporting the bodies of coaches and other four-wheeled carriages, upon springs.	927	8th June 1769	Christopher Reeves.
Construction of wheel carriages - - - - -	997	17th Sept. 1771	Joseph Jacob.
Making or manufacturing japanned high-varnished panels in paper, for carriages and sedan-chairs.	1027	20th Nov. 1772	Henry Clay.
Ornamenting carriages and sedan-chairs - - -	1065	14th Feb. 1774	Joseph Jacob.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Carriage for coaches, chariots, chaises, waggon, and all manner of vehicles, to be used with three or four wheels.	1101	1st Aug. 1775	Owen O'Keeffe.
Travelling machine, named the "Imperial Mercury"	1248	16th March 1780	Crispus Claggett.
Machine to support an umbrella, to be fixed in a saddle or phaeton, or any other carriage.	1264	15th Sept. 1780	Mark Bull.
Construction of carriages - - - - -	1355	1st Feb. 1783	Joseph Jacob.
Coaches and carriages, also coach and carriage bodies.	1363	25th Oct. 1783	John Hatchett.
Four-wheel carriage - - - - -	1415	28th Jan. 1784	Francis Moore.
Making wheeled carriages for coaches, phaetons, chaises, waggon, drays, field-pieces, and other conveyances, with boxes and axletrees, whereby the greater part of the friction attending boxes and axletrees is taken off, thus rendering the carriages lighter and more easy for work and draught: they also do not require grease;—applicable for hydraulic, steam, or other engines, mills, and machinery, where spindles and axletrees are used, and which do not work on the centre.	1514	9th Dec. 1785	John Shankster.
Coach with two wheels - - - - -	1546	13th June 1786	Francis Moore.
Ornamenting the outside of coaches and other carriages with foil stones, Bristol stones, paste, and all sorts of pinched glass, sapped glass, and every other stone, glass, and composition used in or applicable to the jewellery trade.	1552	5th Aug. 1786	John Skidmore.
Wheeled carriages - - - - -	1574	29th Nov. 1786	John Besant.
Hanging coaches, vis-à-vis, and other bodies, so as to cause the same to remain upright when overturned.	1618	11th Aug. 1787	John Davis.
Hanging coaches, chariots, phaetons, calashes, gigs, chaises, and other carriages, for the security of persons riding therein.	1623	6th Oct. 1787	John Shankster.
Carriage for coaches, chariots, vis-à-vis, phaetons, curricles, one-horse chaises, &c., drawn on wheels; also sledges without wheels.	1643	21st March 1788	John Hatchett.
Machinery for affording security to passengers in carriages.	1710	7th Nov. 1789	Ralph Gout.
Ornamenting coaches, chaises, and phaetons - -	1727	23rd Feb. 1790	Samuel Hands.
Carriage for the conveyance of merchandise or passengers.	1767	28th July 1790	John Besant.
Coaches, landaus, chariots, berlins, phaetons, post-chaises, and caravans, the bodies of which cannot overturn, and are more safe and convenient than ordinary carriages.	1885	25th May 1792	John March.
Building two-wheeled carriages - - - - -	1886	6th June 1792	Benjamin Vulliamy.
Making panels for coaches and other carriages -	1918	20th Nov. 1792	Henry Clay.
Fixing carriage bodies - - - - -	2266	10th Nov. 1798	{ William Anthony. Edward Shorter.
Constructing travelling carriages - - - - -	2439	13th Aug. 1800	Isaac Hedley Reddell.
Building carriages - - - - -	2536	31st Aug. 1801	John Theodore Koster.
Carriages - - - - -	2615	5th May 1802	George Frederic Bauer.
Construction of wheeled carriages - - - - -	2630	26th June 1802	James Tate.
Construction of coaches, chariots, barouches, landaus, and other four-wheeled carriages.	2646	11th May 1805	Obadiah Elliott.

subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Machinery to be attached to coaches and other carriages for the accommodation of passengers.	2854	27th May 1805	Samuel Miller.
Stage coach and other carriages - - - -	2890	16th Nov. 1805	William Milton.
Construction of carriages with more than two wheels	2971	2nd Oct. 1806	William Cooke.
Construction of four-wheeled carriages - - -	3020	7th March 1807	John Houlditch.
Construction of four-wheeled carriages - - -	3034	21st April 1807	James Forbes Dalton.
Construction of roofs and upper quarters of landaus, barouches, and other carriages.	3083	21st July 1807	Charles Lewis Birch.
Covering and enclosing carriages - - - -	3086	9th Dec. 1807	John Williams.
Preserving the equilibrium of carriages and vehicles, and preventing them overturning.	3091	19th Dec. 1807	John Williams.
Structure of carriages - - - - -	3108	4th Feb. 1808	John Dumbell.
Hanging the bodies of four-wheeled carriages -	3193	23rd Jan. 1809	Edward Stracey.
Construction of wheeled carriages - - - -	3273	6th Nov. 1809	David Mead Randolph.
Construction of wheeled carriages - - - -	3303	12th Feb. 1810	George Wyke.
Apparatus or additional parts to be applied to and used with wheel carriages [ <i>to support the carriage in the event of the horse falling</i> ].	3344	8th June 1810	John Williams.
Construction of carriages - - - - -	3474	7th Aug. 1811	Houstown Rigg Brown.
Suspending the bodies or principal parts of wheel carriages.	3514	13th Jan. 1812	William Nicholson.
Preventing accidents from carriages [ <i>improvements on patent No. 3344</i> ].	3520	20th Jan. 1812	George White.
Construction of wheeled carriages;—partly applicable to machinery where a rotary motion is necessary.	3616	26th Nov. 1812	Joseph Bramah.
Construction of four-wheel carriages - - - -	3627	19th Dec. 1812	George Heffer.
Method for making or constructing beds, pillows, hammocks, cushions, and various other articles of that kind, in a different manner and of different materials from any hitherto used [ <i>carriage linings, pads, &amp;c.</i> ].	3718	14th July 1813	John Clark.
Construction of carriages; application of a material hitherto unused in the construction thereof [ <i>whalebone</i> ].	3733	25th Aug. 1813	John Hancock.
Constructing four-wheeled carriages - - - -	3749	9th Nov. 1813	Charles Wilks.
Carriages - - - - -	3802	9th April 1814	William Whitfield.
Carriages - - - - -	3804	27th April 1814	Lewis Gomperts.
Wheeled carriages - - - - -	3927	14th June 1815	William Pope.
Stage coaches or other coaches or carriages - -	3991	14th March 1816	John Stead.
Wheeled carriages - - - - -	4022	4th May 1816	Richard Banks.
Apparatus to be applied to carriages to prevent them being overturned.	4079	1st Nov. 1816	William Snowden.
Application of springs to wheeled carriages - -	4092	20th Jan. 1817	William Manton.
Construction of wheeled carriages - - - -	4143	19th July 1817	{ George Wyke. { Edward Shorter.
Constructing carriages - - - - -	4200	15th Jan. 1818	John Theodore Koster.
Wheeled carriages - - - - -	4207	23rd Jan. 1818	Richard Banks.
Machine or apparatus for preventing the wheels of waggons, carts, coaches, and other carriages from coming off by accident (" <i>wheel-detainer</i> ").	4242	8th April 1818	William Hopkinson.
Wheeled carriages - - - - -	4312	19th Nov. 1818	Henry Matthews.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Machine for the purpose of diminishing the labour and fatigue of persons in walking, and enabling them at the same time to use greater speed.	4321	22nd Dec. 1818	Denis Johnson.
Apparatus for preventing the overturning of stage coaches and other wheeled carriages.	4334	15th Jan. 1819	John Roberts, junior.
Stage coaches and other descriptions of carriages -	4373	18th May 1819	Edward Wall.
Wheeled carriages - - - - -	4502	20th Oct. 1820	Joseph Main.
Wheeled carriages [ <i>mode of attaching the panels</i> ] -	4551	17th April 1821	James Henry Marsh.
Construction of the body and carriage of stage or other coaches.	4569	17th July 1821	Charles Newman.
Wheeled carriages - - - - -	4575	26th July 1821	John Richard Barry.
Construction of wheeled carriages - - - - -	4581	14th Aug. 1821	David Gordon.
Construction of carriages - - - - -	4653	2nd March 1822	John Higgins.
Wheeled carriages - - - - -	4701	3rd Sept. 1822	Henry Burgess.
Wheeled carriages to counteract the falling and facilitate the labour of animals attached to them; also to render persons and property in and near them secure from injury.	4730	5th Dec. 1822	Joseph Woollams.
Organization of vehicles or carriages; also drawing, actuating, accelerating, or moving the same [ <i>by means of a contrivance called "the Conculcator," having treble legs</i> ].	4737	16th Dec. 1822	John Dumbell.
Wheel carriages - - - - -	4895	24th Jan. 1824	Thomas Bewley.
Wheeled carriages - - - - -	5017	14th Oct. 1824	James Gunn.
Construction of carriages or other machines to be moved or propelled by mechanical means [ <i>by levers and cranks</i> ].	5056	18th Dec. 1824	David Gordon.
Carriages for conveyance of passengers, merchandise, and other things on roads, either on a level or inclined plane;—applicable to other purposes [ <i>actuated by men or horses labouring within the vehicle, and in a similar manner to horses working a mill</i> ].	5060	18th Dec. 1824	William Francis Snowden.
Carriages - - - - -	5063	24th Dec. 1824	Daniel Stafford.
Carriages to be used on roads - - - - -	5160	10th May 1825	Thomas Hill.
Machine or apparatus to prevent the overturning or falling of carriages.	5165	14th May 1825	Thomas Pyke.
Construction of carriages whereby greater safety to the persons riding in such carriages, and other advantages, will be obtained.	5216	16th July 1825	Thomas Cooke.
Apparatus to prevent coaches, carriages, mails, and other vehicles overturning - - - - -	5235	11th Aug. 1825	{ William Hirst. Henry Hirst. William Heycock. Samuel Wilkinson.
Wheeled carriages - - - - -	5279	7th Nov. 1825	Thomas Seaton.
Constructing wheeled carriages - - - - -	5281	8th Nov. 1825	Thomas Shaw Brandreth.
Wheeled carriages - - - - -	5301	3rd Dec. 1825	William Pope.
Improvements on or additions to wheel carriages -	5366	23rd May 1826	Thomas Parrant Birt.
Construction of cars or other carriages - - - - -	5420	18th Oct. 1826	{ James Viney. George Pocock.
Apparatus on which to suspend carriage bodies -	5423	18th Nov. 1826	Henry Charles Lacey.
Construction of carriages - - - - -	5438	20th Dec. 1826	Frederick Andrews.
Construction of wheeled carriages - - - - -	5500	26th May 1827	George Burges.
Wheeled carriages - - - - -	5513	28th June 1827	Thomas Fuller.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Construction of wheeled carriages - - - -	5638	15th April 1828	Lemuel Wellman Wright.
Wheel carriages - - - - -	5680	11th Aug. 1828	John Lane Higgins.
Construction of carriages and other vehicles - -	5700	11th Sept. 1828	Thomas Menikew.
Vehicle or combination of vehicles, for conveyance of passengers and goods, on a principle of security against overturning or upsetting.	5819	25th July 1829	Louis Quetin.
Coach for public conveyance and luggage - -	5827	5th Aug. 1829	Thomas Brown.
Improvements partly applicable to the construction of carriages [using corrugated plates of thin metal].	6000	21st Sept. 1830	William Church.
Application of spring carriages - - - -	6054	17th Dec. 1830	Augustus Graham.
Wheeled carriages, and apparatus to be used therewith.	6124	7th June 1831	John Pearse.
Construction of heads or hoods for such cabriolets, gigs, and other open carriages as require the heads to fold down behind, when not in use.	6142	27th July 1831	John Bance.
Construction of wheeled carriages - - - -	6151	10th Aug. 1831	William Mason.
Apparatus to be employed in the transportation of goods or passengers.	6220	9th Feb. 1832	William Church.
Wheeled carriages, and mode of constructing the same - - - - -	6241	8th March 1832	{ Joseph Gibbs. William Chaplin.
Construction of coaches or other carriages for conveyance of passengers, to be drawn by horses.	6377	29th Jan. 1833	John Reedhead.
Apparatus to be employed in the transportation of goods or passengers.	6469	7th Sept. 1833	William Church.
Construction of carriages - - - - -	6529	20th Dec. 1833	Louis Quaintin.
Improvements partly applicable to carriages - -	6550	25th Jan. 1834	Benjamin Hick.
Improvements partly applicable to carriages - -	6689	8th Oct. 1834	Benjamin Hick.
Carriages - - - - -	6707	4th Nov. 1834	Joseph Gibb.
Construction of carriages to be propelled by animal or other power.	6772	25th Feb. 1835	William Aitken.
Apparatus to be employed in the conveyance of goods and passengers by land.	6791	16th March 1835	William Church.
Suspending and adjusting the bodies of wheeled carriages.	6840	27th May 1835	Thomas Fleming Bergin.
Improvements applicable to various descriptions of carriages.	7108	7th June 1836	Manoah Bower.
Carriages - - - - -	7147	13th July 1836	Louis Matthias Horliac.
Construction of carriages for the conveyance of persons.	7162	6th Aug. 1836	Ramsey Richard Reinagle.
Cabs - - - - -	7188	21st Sept. 1836	Moses Poole.
Wheel carriages - - - - -	7212	20th Oct. 1836	William Bridges Adams.
Cabriolets and omnibuses - - - - -	7259	19th Dec. 1836	{ Thomas Routledge. Elijah Galloway.
Cabs - - - - -	7266	21st Dec. 1836	{ William Stedman Gillett. John Chapman.
Construction of carriages - - - - -	7279	11th Jan. 1837	James Braby.
Construction of carriages - - - - -	7285	19th Jan. 1837	John Murray.
Certain wheeled carriages - - - - -	7309	23rd Feb. 1837	Jasper Weston.
Two-wheel carriages - - - - -	7364	6th May 1837	George Hayman.
Carriages - - - - -	7619	21st April 1838	James Macnee.
Carriages - - - - -	7631	3rd May 1838	John Ball.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Carriages - - - - -	7703	25th June 1838	George Holworthy Palmer.
Hanging wheel carriages - - - - -	7811	13th Sept. 1838	Archibald M'Lellan.
Carriages [ <i>extension of patent No. 5063 for seven years, from the 24th December 1838</i> ].	7919	21st Dec. 1838	Daniel Stafford.
Two-wheeled carriages - - - - -	7958	29th Jan. 1839	Charles James Blasins Williams.
Carriages - - - - -	8028	9th April 1839	Thomas Parkin.
Carriages - - - - -	8092	6th June 1839	William Prior.
Improvements applicable to wheeled carriages -	8136	29th June 1839	Moses Poole.
Head for carriages - - - - -	8192	13th Aug. 1839	John Holloway.
Construction of wheel carriages - - - - -	8197	16th Aug. 1839	{ William Bridges Adams. John Buchanan.
Omnibuses - - - - -	8325	21st Dec. 1839	Henry Francis Richardson.
Constructing carriages for common roads - -	8331	1st Jan. 1840	John Leo Nicolas.
Carriages - - - - -	8392	22nd Feb. 1840	William Cook.
Construction of wheeled carriages - - - - -	8639	24th Sept. 1840	John Maughan.
Wheel carriages for common roads - - - - -	8755	28th Dec. 1840	John Buchanan.
Construction of wheeled carriages, and appendages thereto.	8756	28th Dec. 1840	William Bridges Adams.
Construction of carriages - - - - -	8819	28th Jan. 1841	William Gall.
Four-wheeled carriages - - - - -	8846	15th Feb. 1841	{ Philip William Phillipa. William Bishop Peck.
Carriages - - - - -	8867	8th March 1841	John Varley.
Certain improvements applicable to carriages -	8900	22nd March 1841	Thomas Wright.
Carriages - - - - -	9334	28th April 1842	John Henry Pape.
Carriages - - - - -	9427	23rd July 1842	Alexander Johnston.
Carriages - - - - -	9437	3rd Aug. 1842	John Lee.
Construction of carriages - - - - -	9459	8th Sept. 1842	William Warburton.
Carriages - - - - -	9473	16th Sept. 1842	William Henry James.
Carriages - - - - -	9483	29th Sept. 1842	John Fry Wilkey.
Omnibuses - - - - -	9499	27th Oct. 1842	George Hazeldine.
Construction of carriages - - - - -	9727	16th May 1843	{ John Lucena Ross Kettle. William Prosser.
Construction of two-wheeled carriages - - -	9848	20th July 1843	Joseph Harvey.
Improvements partly applicable to the construction of carriages - - - - -	9984	8th Dec. 1843	{ Henry Vingoe. William Henry Vingoe.
Carriages and parts of carriages, applicable to various purposes.	10,072	24th Feb. 1844	William Rouse.
Construction of carriages for conveyance of passengers on roads and railways.	10,145	18th April 1844	Edgar Heale.
Construction and arrangement of certain parts of omnibuses and other vehicles.	10,169	30th April 1844	James Hayman.
Construction of carriages generally - - - -	10,197	23rd May 1844	John Henry Moor.
Construction of carriages - - - - -	10,387	9th Nov. 1844	William Prosser, junior.
Carriages for conveyance of passengers and goods; means of working the same.	10,411	2nd Dec. 1844	William Henry James.
Suspending carriages - - - - -	10,717	10th June 1845	Thomas Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Omnibuses - - - - -	10,959	20th Nov. 1845	{ Thomas Hunybun. Edward Venden.
Carriages - - - - -	11,048	20th Jan. 1846	Richard Archibald Broo- man.
Improvements applicable to machinery or apparatus to be applied to carriages on common roads.	11,151	25th March 1846	Joseph Needham Tayler.
Improvements partly applicable to carriages - -	11,318	30th July 1846	{ Robert Mallet. John Somers Dawson.
Two and four wheeled carriages - - - -	11,336	15th Aug. 1846	William Aitken.
Passenger carriages - - - - -	11,348	25th Aug. 1846	{ James Bishop. Thomas Wood.
Construction of wheel carriages, and engines moved or retarded by animal or mechanical agency;— partly applicable to other like purposes.	11,445	12th Nov. 1846	William Bridges Adams.
Carriages - - - - -	11,460	21st Nov. 1846	William Pidding.
Carriages - - - - -	11,594	24th Feb. 1847	{ John Low. James Simpson.
Public vehicles - - - - -	11,606	3rd March 1847	Charles Stewart Duncan.
Improvements partly applicable to wheeled carriages in general.	11,638	23rd March 1847	Henry Smith.
Parts of carriages; machinery for manufacturing the same.	11,648	6th April 1847	Benjamin Tucker Strat- ton.
Wheeled carriages; panels for the same, and for } other purposes - - - - - }	11,649	8th April 1847	{ Charles De Bergue. John Coope Haddan.
Construction of carriages; apparatus to be used with omnibuses and other carriages.	11,665	20th April 1847	George William Rowley.
Construction of carriages - - - - -	11,675	27th April 1847	Alfred Vincent Newton.
Wheel carriages - - - - -	11,727	3rd June 1847	{ William Horne. George Beadon. Andrew Smith.
Two and four wheeled carriages - - - - -	11,951	9th Nov. 1847	Reuben Dyer.
Treating pasteboard and other substances; render- ing them compact, and impervious to wet, frost, vermin, and other destructive agents [ <i>for making carriages</i> ].	11,979	25th Nov. 1847	William Hutchison.
Construction of heads of open or close carriages -	12,127	15th April 1848	David Davies.
Construction of vehicles used on common roads -	12,170	1st June 1848	Richard Christopher Mansell.
Conveyances on land - - - - -	12,826	2nd Nov. 1849	Lucien Vidie.
Land carriages - - - - -	12,930	17th Jan. 1850	Henry Cowing.
Construction of carriages - - - - -	13,162	3rd July 1850	John Coope Haddan.
Suspending carriages - - - - -	13,191	23rd July 1850	George Dunbar.
Wheeled carriages - - - - -	13,314	2nd Nov. 1850	Richard Clyburn.
Carriages;—applicable to other machines - -	13,328	9th Nov. 1850	James Rock, junior.
Public carriages for conveyance of passengers -	13,384	5th Dec. 1850	Joseph Alexander Flank- linsky.
Apparatus to be used by persons to secure warmth and dryness when travelling [ <i>a chair or seat pro- vided with curtains</i> ].	13,459	18th Jan. 1851	Richard Bycroft.
Public carriages for the conveyance of passengers -	13,473	23rd Jan. 1851	Joseph Bunnett.
Construction of wheel carriages, and appendages thereto.	13,485	31st Jan. 1851	David Davies.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Construction of public carriages - - - -	13,604	26th April 1851	James Bagster Lyall.
Manufacture of carriages and other vehicles - -	13,669	17th June 1851	Francis John Swaine Hepburn.
Sustaining travelling carriages and other articles;— applicable to other like purposes.	13,710	5th Aug. 1851	Levi Bissell.
Construction of omnibuses and other public and private carriages.	13,812	15th Nov. 1851	William Charles Scott.
Improvements in part applicable to carriages on common roads.	14,018	8th March 1852	Paul Rapsey Hodge.
Safety cab omnibus - - - - -	14,025	18th March 1852	Francis Wheatley.
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2. ( <i>Steam-coaches.</i> )			
Steam-carriages capable of conveying goods and passengers on common roads, without horses.	4630	20th Dec. 1821	Julius Griffiths.
Construction of steam-carriages for common roads [ <i>applying a steam-engine to each wheel</i> ].	4957	15th May 1824	William Henry James.
Locomotive-engines and the apparatus connected therewith [ <i>carriages to run on ordinary roads</i> ].	5554	11th Oct. 1827	Goldsworthy Gurney.
Locomotive-carriages intended to be employed on ordinary roads.	11,040	13th Jan. 1846	Edmund Leahy.
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3. ( <i>Carts, Waggons, Wheelbarrows, &amp;c.</i> )			
Carriage of coaches, carts, drays, and all other things going upon wheels.	68	29th Jan. 1634	David Ramsey.
Carts, waggons, and carriages going on two wheels	248	30th Nov. 1685	Henry Savile.
Engine or carriage with four wheels, and double troubles which open in the middle, shoot the load at once, and return into their places again.	353	25th Feb. 1698	James Van Daalen.
Making waggons and other wheeled carriages -	714	9th April 1757	John Ladd.
Carriage for waggons or other vehicles with four or three wheels.	1101	1st Aug. 1775	Owen O'Keefe.
Engine and wheel-carriage, with suitable machinery and apparatus to break up, raise, load, carry, shoot and otherwise work, mould, gravel, stones, chalk, and other materials and substances, without manual labour.	1366	3rd May 1783	William Driver.
Machine on an inverted principle, for raising and removing earth, sand, stone, and other materials.	1440	3rd July 1784	John Carne.
Machinery for removing and conveying earth or any other thing on level ground, and for raising and conveying the same out of holes or founda- tions of houses, also for lowering the same from eminences and heights;—applicable to other pur- poses.	2004	29th July 1794	William Sladen.
Carriage for conveying and discharging coals, lime, soil, manure, stones, gravel, sand, rubbish, and other materials.	2092	27th Feb. 1796	Henry Clay.
Manufacture of a machine which may be used as a waggon, cart, or dray, in a more perfect and expeditious manner and with fewer horses than usual.	2201	9th Nov. 1797	Henry Overend.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Machine for raising, removing, and carrying earth, stones, rubbish, or anything of the like nature.	2220	10th March 1798	Henry Goolding.
Constructing carriages for the conveyance of merchandise by land or water, and which carriages may be removed, either loaded or unloaded, from land to water, and vice versa.	2434	2nd Aug. 1800	Isaac Hadley Reddell.
Common waggon, which may be separated and used as two carts; "patent Hampshire waggon."	2685	28th Feb. 1803	Robert Mason.
Construction of waggons and other carriages with more than two wheels.	2971	2nd Oct. 1806	William Cooke.
Carriages for removing bricks and earthenware -	2986	6th Nov. 1806	Robert Vazie.
Carriages for unloading heavy coals and other things.	3336	9th May 1810	John Bosworth.
Waggons, carts, and other wheel carriages - -	3421	26th March 1811	John Craigie.
Mechanical means whereby the conveyance of coals, minerals and other articles, is facilitated and the expense reduced.	3431	10th April 1811	John Blenkinsopp.
Machine for giving publicity by day and by night to proclamations, notices, legal advertisements and other matters, to render unnecessary the defacement of walls by bill-sticking, placarding, and chalking [ <i>carriage with a revolving lantern</i> ].	5024	21st Oct. 1824	George Samuel Harris.
Construction of trucks or carriages;—applicable to other useful purposes.	5400	2nd Aug. 1826	Lemuel Wellman Wright.
Vehicle or combination of vehicles for carriage of luggage and goods [ <i>running upon one wheel only</i> ].	5819	25th July 1829	Louis Quentin.
Constructing certain descriptions of wheelbarrows -	5971	5th Aug. 1830	William Mallot.
Apparatus to be employed in the transportation of goods or passengers.	6220	9th Feb. 1832	William Church.
Construction of waggons or other carriages for conveyance of goods to be drawn by horses.	6377	29th Jan. 1833	John Reedhead.
Machinery or apparatus to be employed in the transportation of goods or passengers.	6469	7th Sept. 1833	William Church.
Vehicle for conveying loads on common and other roads.	6733	23rd Dec. 1834	Joseph Hansom.
Construction of carriages for conveyance of goods and merchandise.	7162	6th Aug. 1836	Ramsey Richard Reinagle.
Apparatus for transporting materials for various purposes from one place to another; particularly applicable to road-cutting and embankments.	7896	6th Dec. 1838	Godefroy Cavaignac.
Carriages for conveyance of goods; working the same.	10,411	2nd Dec. 1844	William Henr, James.
Raising and transporting earth and other heavy bodies.	10,948	18th Nov. 1845	Moses Poole.
Means and apparatus for effecting the transit or conveyance of goods, passengers and correspondence, by land, and for other purposes.	11,269	15th Sept. 1848	William Sager.
Apparatus for covering trucks and waggons on railways, also road waggons and canal boats, so as effectually to protect goods, in the course of public transit, from theft or damage, and at the same time to allow of such trucks and waggons being loaded and unloaded with equal facility.	12,713	18th July 1849	Roland Brotherhood.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Construction of waggons, carts, and vans - - -	13,189	23rd July 1850	George Hazeldine.
Apparatus or waggon used for moving and conveying slate and stone - - - - -	14,165	12th June 1852	{ Edwyn John Jeffery Dixon. Arthur John Dodson.
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<b>II.—Means of Transit.—Conveyance of Letters, Bags, Packs, &amp;c.</b>			
Means for the safe transportation of horses and cattle to and from any of His Majesty's dominions.	43	24th May 1628	Hugh Wyott.
Chain-belt for securing trunks to carriages, and which is fastened with a lock that cannot be picked.	1193	29th May 1778	Joshua Lover Martin.
Preventing loss of parcels and remittances sent by coach.	3809	21st May 1814	Thomas Abree Pickering.
Security and safe conveyance of small parcels and remittances of property of every description.	3913	11th May 1815	Charles Pitt.
Straps or bands for securing luggage on coaches, or for securing property generally when placed in exposed situations [ <i>of metal</i> ].	4711	27th Sept. 1822	Samuel Pratt.
Means of securing valuable property in mail and other stage coaches, travelling carriages, waggons, caravans, and other similar public and private vehicles, from robbery [ <i>attaching an alarm-bell</i> ].	4855	1st Nov. 1823	John Ranking.
Means of intercourse by which persons may be conveyed, goods transported, or intelligence communicated from place to place, with greater expedition than by means of steam-carriages, steam-vessels, or carriages drawn by animals [ <i>by the pressure of condensed air through hollow tubes</i> ].	4905	19th Feb. 1824	John Vallance.
Inland transit - - - - -	6885	17th Aug. 1835	Henry Pinkus.
Means of conveying and transporting persons and goods from one place to another.	7980	4th Feb. 1839	Moses Poole.
Improvements applicable to apparatus whereby packs are carried by men.	8050	25th April 1839	John Browne.
Conveying goods, passengers, or intelligence [ <i>through the air</i> ].	9642	21st Feb. 1843	Lawrence Holker Potts.
Landing or transmitting persons and goods over or through strata or obstructions; may be used either separately or combined - - - - -	9974	21st March 1843	{ Joseph Needham Taylor. William Henry Smith.
Conveying letters, letter-bags, and other light parcels and articles [ <i>vehicle</i> ].	14,088	24th April 1852	Armand Jean Baptiste Louis Marcescheau.
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<b>III.—Wheels, Wheel-tire, and Wheel-guards.</b>			
Making sheets and tires for wheels by millwork -	229	15th Nov. 1683	{ William Palin. William Hoggins.
Roller instead of wheels, for the bodies of carriages and carts.	277	1st Oct. 1691	Hendrick Edisbury.
Making streaks for binding cart and waggon wheels, of pig iron.	445	22nd May 1722	Richard Baddeley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Addition of a wheel, iron bars, plates, pins, &c., to coaches, waggons, or carts, for preserving the roads from being cut or worn.	450	12th July 1722	Anthony Barlow.
Making the rim or edge of coal-waggon wheels with iron or steel, and with iron ribs, bolts, rivets, and screws.	529	20th May 1731	Elias Thornhill.
Making tire for wheeled carriages - - - -	740	14th July 1759	Thomas Blockley.
Coach wheels, the spokes of which are constructed of springs, for coaches and carriages.	1026	13th Nov. 1772	James Butler.
Construction of wheels for carriages - - - -	1109	28th Nov. 1775	Walter Taylor.
Making wheels for coaches, chaises, and other carriages, the nave and spokes consisting either wholly of iron, or in part of iron, brass, or other metals.	1320	9th March 1782	Augustin Newcome.
Making and constructing wheels of carts, waggons, } and chaises - - - - - }	1338	2nd Oct. 1782	{ William Jordon. William Swinton.
Construction of carriage wheels - - - -	1355	1st Feb. 1783	Joseph Jacob.
Construction of wheels - - - - -	1592	1st March 1787	Valentine Gottlieb.
Making iron tire for all sorts of wheel carriages -	1599	8th May 1787	Alexander Brodie.
Wheel-iron for a coach, chariot, chaise, phaeton, or any other four-wheeled carriage, improved by means of a screwed box, nut, or eye, which, passing through the wheel, and being screwed on the fore-axletree and also to the inside of the splinter-bar, by aid of a screwed box-end, will keep the same in its proper position, and prevent the fore-wheels coming off while in action.	1942	25th March 1793	Henry Wildey.
Making and casting with cast iron, brass, or mixed } metal, naves and stocks for carriage wheels - - }	2337	8th Aug. 1799	{ George Dodson. John Skidmore.
Carriage wheels - - - - -	2615	5th May 1802	George Frederick Bauer.
Carriage wheels - - - - -	2777	4th Aug. 1804	John Brown.
Construction of wheels - - - - -	3039	5th May 1807	Rudolphe Cabanel.
Making and keeping in repair cast iron wheels for coal waggons and other carriages.	3079	6th Nov. 1807	George Hawkes.
Wheels - - - - -	3169	24th Sept. 1808	Thomas Paton.
Metal nave for wheeled carriages - - - -	3266	26th Sept. 1809	Benjamin Flight.
Making carriage wheels - - - - -	3270	2nd Nov. 1809	Joseph Bramah.
Apparatus to be fixed to naves of wheels and the beds of axletrees of carriages, to prevent accidents.	3413	14th March 1811	Thomas Willis Cooper.
Construction of wheels for carriages - - -	3432	11th April 1811	John Taylor.
Construction of wheels - - - - -	3474	7th Aug. 1811	Houstown Rigg Brown.
Machinery or "revolving rollers and revolving roller-wheels," to be applied to wheel carriages in conjunction with part or instead of any of the present wheels and axletrees, to facilitate the draught of the same.	3536	6th Feb. 1812	William Palmer.
Constructing wheels for carriages - - - -	3618	28th Nov. 1812	Thomas Rogers.
Naves and centres for carriage wheels - - -	3713	29th June 1813	Charles Wilkes.
Carriage wheels - - - - -	3769	12th March 1814	{ James Barclay. William Cuming.
Substitute for wheels of carriages and other machines.	3804	27th April 1814	Lewis Gompertz.
Safeguard in getting in and out of chairs, curricles, and other two-wheeled carriages.	3866	21st Feb. 1815	Joseph Burrell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Method of preventing accidents arising from horses falling when harnessed to two-wheeled carriages [ <i>safety-wheel</i> ].	3911	29th April 1815	William Bush.
Carriage wheels - - - - -	3982	10th Feb. 1816	William Milton.
Wheel-guard - - - - -	3986	2nd March 1816	Francis Turrill.
Constructing wheels - - - - -	4200	15th Jan. 1818	John Theodore Koster.
Construction of wheels of wheeled carriages, and all other vertical wheels of a certain size - - }	4709	27th Sept. 1822	{ John Whitcher. Matthew Pickford. James Whitbourn.
Wheels to be used on carriage-ways of streets, turnpike and other roads.	5185	14th June 1825	John Lindsay.
Construction, use, and application of wheels - -	5280	7th Nov. 1825	George Hunter.
Wheels for carriages [ <i>made of metal, with tension spokes</i> ].	5415	11th Oct. 1826	Theodore Jones.
Carriage wheels - - - - -	5497	8th May 1827	David Bentley.
Wheels to be attached to carriages - - -	5500	26th May 1827	George Burges.
Wheels for carriages - - - - -	5574	4th Dec. 1827	John Meadon.
Wheels, axletrees, and other parts of carts, waggons, and other conveyances.	5745	18th Dec. 1828	Edward Josephs.
Construction of wheels for carriages - - -	5913	27th Feb. 1830	William Howard.
Making and constructing wheels; and their application to carriages [ <i>made of iron and wood combined</i> ].	5972	5th Aug. 1830	John Pearse.
Construction and application of wheels to carriages, or to machines for moving heavy bodies.	6030	4th Nov. 1830	Augustus Whiting Gillett.
Wheels for carriages and machinery; applicable to other purposes.	6158	5th Sept. 1831	George Forrester.
Machinery for cutting out wood for carriage wheels, and for cutting and shaping wheels - - - }	6310	22nd Sept. 1832	{ Joseph Gibbs. Augustus Applegath.
Construction and arrangement of iron and other metal wheels for carriages.	6540	13th Jan. 1834	Pinnock Tiger.
Wheels for carriages - - - - -	6707	4th Nov. 1834	Joseph Gibbs.
Wheels - - - - -	6773	25th Feb. 1835	Patrick Seyton Hynes.
Construction of wheels for carriages in which springs are used.	6790	13th March 1835	William Bridges Adams.
Metallic safety-wheel - - - - -	6812	14th April 1835	John Ingledew.
Wheels for carriages - - - - -	6880	14th Aug. 1835	John Day.
Wheels of carriages for carrying persons on common roads and on railways.	6895	24th Sept. 1835	William Mason.
Wheels for carriages - - - - -	7369	10th May 1837	John Hague.
Construction of wheels - - - - -	7404	19th July 1837	John Pearse.
Construction of wheels for carriages - - -	7497	5th Dec. 1837	George Cottam.
Manufacturing wheels, and apparatus for constructing the same.	7571	21st Feb. 1838	Jeremiah Grime.
Making tire iron; and machinery used in the same -	7666	2nd June 1838	James Hardy.
Construction of wheels - - - - -	7795	6th Sept. 1838	{ John Frederick Bourne. John Bartley.
Wheels for carriages - - - - -	8026	9th April 1839	Thomas Parkin.
Wheels for use on turnpike roads - - - -	8219	16th Sept. 1839	{ Isaac Dodds. William Owen.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Wheels for carriages - - - - -	8667	22nd Oct. 1840	{ Gabriel Riddle. Thomas Piper.
Construction of wheels for carriages - - -	9291	10th March 1842	Henry Smith.
Preparing wrought iron intended for wheel tire and certain other articles.	9298	21st March 1842	Sydney Jessop.
Construction of wheels - - - - -	9334	28th April 1842	John Henry Pape.
Manufacture of metallic hoops and tires for wheels; method of fixing the same; machinery employed therein.	9547	8th Dec. 1842	John George Bodmer.
Improvements partly applicable to the construction of wheels - - - - - }	9984	8th Dec. 1843	{ Henry Vingoe. William Henry Vingoe.
Construction of wheels for carriages - - -	9990	18th Dec. 1843	Samuel Pariby.
Construction of wheels for carriages - - -	10,090	4th March 1844	Samuel Atkinson.
Machinery for making wheels for carriages - -	10,131	30th March 1844	William Crosskill.
Wheels - - - - -	10,328	12th June 1844	Moses Poole.
Construction of wheels for carriages - - -	10,640	29th April 1845	William Gilmour Wilson.
Construction of wheels for carriages - - -	10,717	10th June 1845	Thomas Smith.
Carriage wheels; applicable to other rolling bodies	10,990	10th Dec. 1845	Robert William Thomson
Two and four wheeled carriages [ <i>wheels</i> ] - -	11,336	15th Aug. 1846	William Aitkin.
Construction of wheels; tools employed thereon; forming and manufacturing tires of wheels;—applicable to making metallic rings, bands, hoops, cylinders, and other similar articles.	11,435	3rd Nov. 1846	William Exall.
Construction of wheel carriages, and engines moved or retarded by animal or mechanical agency;—partly applicable to like purposes [ <i>carriage wheels</i> ].	11,445	12th Nov. 1846	William Bridges Adams.
Manufacture of tires or hoops for wheels, and other articles of iron or steel.	11,621	15th March 1847	Sampson Lloyd.
Improvements partly applicable to wheeled carriages in general [ <i>wheels</i> ].	11,636	23rd March 1847	Henry Smith.
Wheels for common roads, and machinery for manufacturing parts of the same.	11,648	6th April 1847	Benjamin Tucker Stratton.
Manufacturing wheels - - - - -	11,769	28th June 1847	William Edward Newton.
<del>Construction and manufacture of wheels; preparing and constructing the tires used thereon.</del>	<del>12,003</del>	<del>11th March 1848</del>	<del>George Gooder.</del>
Construction and manufacture of wheels used on common roads; preparing and constructing the tires used thereon.	12,094	11th March 1848	John Ashbury.
Construction of wheels - - - - -	12,413	11th Jan. 1849	William Edward Newton.
Wheels - - - - -	12,663	20th June 1849	Alexander Francis Campbell.
Manufacture of wheels [ <i>carriage wheels</i> ] - -	12,839	10th Nov. 1849	Enoch Chambers.
Construction of wrought-iron wheels; machinery for effecting the same [ <i>carriage wheels</i> ].	12,883	10th Dec. 1849	John Houghton Christie.
Construction of wheels - - - - -	13,162	3rd July 1850	John Coope Haddan.
Wheels for carriages - - - - -	14,010	8th March 1852	Uriah Scott.
Manufacture of wheels, tires, and hoops - -	14,173	18th June 1852	Richard Archibald Brooman.
Construction of wheels for carriages - - -	14,249	31st July 1852	William Edward Newton.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
<b>IV.—Shafts, Axletrees, and Boxes.</b>			
Axletrees of metal, for coaches, carts, waggons, or other carriages.	81	7th Jan. 1625	Edward Knappe.
Iron boxes for the wheels of carriages; "open boxes."	389	13th Nov. 1711	Daniel Hancock.
Machine for scouring the inside of carriage boxes -	548	1st Oct. 1734	Robert King.
Axletrees for vehicles - - - - -	743	29th Nov. 1759	{ Thomas Pease. William Monk.
Axletrees and axletree-box for coaches and all other carriages, so contrived as to supply itself with oil without taking off the wheels.	801	2nd Dec. 1763	Owen O'Keeffe.
Crane-nook, with an iron bar fixed horizontally against the end of the perch, for coaches, chariots, landaus, and chaises - - - - -	914	19th Jan. 1769	{ William James. Nathaniel Mason.
Axletree on a new construction, with washer-box and collars to be fixed on the arms, and which by jack-wheels enclosed in the said box is applicable to common axletrees now in use, but not upon centres.	952	26th Jan. 1770	Henry Wildey.
Making friction boxes, collars or rundles, for wheels or axletrees of coaches and other carriages.	1258	14th June 1780	William Somerton.
Coach-box, to be fixed to the bodies of coaches, chariots, and other carriages.	1405	8th Dec. 1783	John Abery.
Box for wheeled carriages, to be placed in the centre of the wheel, and work on the axletree.	1434	19th May 1784	Robert Lydford.
Axle or centre-pin, for wheels of coaches or other wheel carriages.	1459	12th Jan. 1785	James Edgell.
Swivel and socket, for the perch of four-wheeled carriages.	1561	10th Oct. 1786	Robert Meares.
Construction of axletrees for carriages - - -	1592	1st March 1787	Valentine Gottlieb.
Construction of carriage and other wheel-boxes and axletrees.	1626	2nd Nov. 1787	John Collinge.
Preventing the splinter-bars of wheel carriages being out of order.	1840	26th Nov. 1791	William Leedham.
Carriage and other wheel-boxes and axletrees, to lessen the draught and friction.	1899	17th July 1792	John Collinge.
Axletree double-box for wheeled carriages; constructed to contain and supply itself with oil for several months, without having to be taken off for the purpose of being oiled.	1942	25th March 1793	Henry Wildey.
Axletrees, axle-arms, and boxes, for light and heavy carriages.	2006	12th Aug. 1794	Philip Vaughan.
Axles for wheel carriages - - - - -	2057	20th July 1795	James Edgell.
Axletree and box for carriages - - - - -	2423	8th July 1800	John Lockett.
Eccentric anti-labourist spring curriole-bar, for one or more horses.	2590	9th March 1802	Obadiah Elliott.
Metal box for the axletrees of wheel carriages -	2675	20th Jan. 1803	Joseph Jacob.
Axletree and box for carriages - - - - -	2841	25th April 1805	Thomas Rowntree.
Construction of axletrees - - - - -	3039	5th May 1807	Rudolphe Cabanel.
Constructing the perches of four-wheeled carriages; constructing perch-bolts and collar-braces.	3193	23rd Jan. 1809	Edward Stracey.
Metal axle and box for wheeled carriages - -	3266	26th Sept. 1809	Benjamin Flight.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Axletrees of carriages - - - - -	3378	17th Sept. 1810	Jonathan Varty.
Axletrees for wheels of carriages; wrought or cast iron boxes; and cast-iron stocks to receive the spokes.	3396	15th Oct. 1810	John Wheatley.
Carriage and other wheel-boxes and axletrees -	3410	9th March 1811	John Collinge.
Apparatus to be fixed on the wheels and the beds of axletrees of carriages, to prevent accidents.	3413	14th March 1811	Thomas Willis Cooper.
Construction of axles and boxes - - - - -	3474	7th Aug. 1811	Houstown Rigg Brown.
Revolving rollers instead of axletrees, for carriages -	3536	6th Feb. 1812	William Palmer.
Construction and make of axletrees for all descriptions of carriages.	3589	28th July 1812	John Bellingham.
Double-coned revolving axle, for carriages - -	3665	13th March 1813	Robinson Kittoe.
Axletrees of wheels, for carriages - - - - -	3770	20th Dec. 1813	William Spratley.
Axletrees for carriages - - - - -	3789	12th March 1814	{ James Barclay. William Cuming.
Perches of carriages - - - - -	3882	10th Feb. 1816	William Milton.
Convolving iron axletree, to reduce friction and animal labour, and prevent the wheels of carriages from coming off.	4042	20th June 1816	John Burnett.
Making cast-iron bushes or pipe-boxes, for chaise, coach, waggon, and all sorts of carriage wheels.	4102	20th Feb. 1817	Robert Hardy.
Axletrees of carriages - - - - -	4165	28th Aug. 1817	{ James Mason Champness. Henry Binks.
Axletrees for four-wheeled carriages - - - - -	4212	27th Jan. 1818	Rudolph Ackermann.
Making arms or axletrees for coaches, carts, waggons, and other carriages.	4360	20th April 1819	John Smith.
Axletrees and boxes [introducing anti-friction rollers].	4495	18th Aug. 1820	George Millichap.
Wheeled carriages [wheel-boxes] - - - - -	4551	17th April 1821	James Henry Marsh.
Construction of shafts; attaching them to two-wheeled carriages.	4755	18th Feb. 1823	Thomas Fuller.
Carriages [axletrees and boxes] - - - - -	5063	24th Dec. 1824	Daniel Stafford.
Improvements in carriages, by affixing the pole to the carriage by a new invented apparatus [and detaching it when required].	5157	28th April 1825	Samuel Ryder.
Axletrees - - - - -	5188	18th June 1825	William Mason.
Construction of axletrees and boxes for carriages or mail coaches.	5451	15th Jan. 1827	William Mason.
Axletrees and boxes for carriage wheels [to relieve friction].	5740	15th Dec. 1828	John Slater.
Axletrees and other parts of carts, waggons, and other conveyances.	5745	18th Dec. 1828	Edward Josephs.
Axletrees for and mode of applying the same to carriages [to enable them to turn in small curves].	5809	4th July 1829	Margaret Knowles.
Axles or axletrees - - - - -	5811	4th July 1829	George King Sculthorpe.
Axletrees, and the boxes applicable thereto - -	5986	24th Aug. 1830	William Mason.
Manufacture of axletrees - - - - -	6415	2nd May 1833	Charles Collinge
Making axletrees for carriages - - - - -	6637	3rd July 1834	James Hardy.
Axletrees and boxes - - - - -	6773	25th Feb. 1835	Patrick Seyton Hynes.
Making or manufacturing axletrees for carriages, and other cylindrical or conical shafts.	6807	4th April 1835	James Hardy.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;C.—continued.</b>			
Revolving axle - - - - -	6812	14th April 1835	John Ingledew.
Boxes and axletrees of carriages for carrying persons and goods on common roads and on railways.	6895	24th Sept. 1835	William Mason.
Axletrees - - - - -	7170	11th Aug. 1836	Robert Allen Hurlock.
Carriages [ <i>axletrees</i> ] - - - - -	7631	3rd May 1838	John Ball.
Rolling and making shafts, rails, tire-irons, and various other heavy articles; machinery used for the same.	7666	2nd June 1838	James Hardy.
Construction and arrangement of axles, axletrees, and naves of wheels for carriages.	7691	1st Dec. 1838	Stanislaus Darthez.
Increasing the security, tenacity, and strength of axles of iron and steel.	7944	19th Jan. 1839	Richard Dugdale.
Constructing and applying boxes to wheels - -	7983	28th Feb. 1839	Moses Poole.
Axletrees of wheel carriages - - - - -	8092	6th June 1839	William Prior.
Parachute to prevent the fall or injury of carriages on the breaking of their axles [ <i>supplementary axletree</i> ].	8911	31st March 1841	Joseph Gawry.
Axletrees and axletree-boxes - - - - -	9052	21st Aug. 1841	Charles De Bergue.
Axletrees - - - - -	9205	21st Dec. 1841	Henri Alphonse Boune- vialle Bouveiron.
Axletrees and axletree-boxes - - - - -	9352	23rd May 1842	Joseph Gibson.
Axletrees and axletree-boxes - - - - -	9632	11th Feb. 1843	Thomas Wolferstan.
Manufacture of axles for carriages - - - - -	9653	2nd March 1843	William Walker.
Axles - - - - -	9928	7th Nov. 1843	William Rowan.
Construction of axle-boxes for carriages - - -	9990	18th Dec. 1843	Samuel Parlyby.
Axles - - - - -	10,226	12th June 1844	Moses Poole.
Construction of axletrees - - - - -	10,405	25th Nov. 1844	George Millichap.
Two and four wheeled carriages [ <i>axles</i> ] - - -	11,336	15th Aug. 1846	William Aitkin.
Manufacturing axletrees for carriages and other cylindrical and conical shafts [ <i>extension for four years, of patent No. 6807, from the 4th April 1849</i> ].	12,555	2nd April 1849	James Hardy. <i>Geach and Walker,</i> <i>Assignees of.</i>
Manufacture of axletree-boxes for carriages - -	12,876	3rd Dec. 1849	Baron James Ulric Vaucher De Strubing.
Construction of wheels for carriages [ <i>axles and axle-boxes</i> ].	14,249	31st July 1852	William Edward Newton.
<b>V.—Springs.</b>			
Mathematical instrument, consisting of several springs, for the ease of persons riding in coaches, chaises, and other conveyances.	376	12th April 1706	Henry Mill.
Steel worm or rolling-spring, to be used in coaches, chariots, or other carriages.	470	24th Oct. 1724	Thomas Rogers.
Coach-springs - - - - -	717	11th Nov. 1757	William Harrison.
Ribbed spring for hanging coaches and other carriages.	738	21st Feb. 1759	Richard Tredwell.
Iron machine for moulding and setting all kinds of springs for hanging coaches and other carriages -	769	10th Feb. 1762	Richard Tredwell.
Springs for hanging coaches and other carriages -	769	10th Feb. 1762	{ Richard Tredwell. Thomas Overton.
Making springs for hanging coaches and other carriages.	792	29th July 1763	Richard Tredwell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Machine and spring for the purpose of causing coaches, chaises, chariots, or any other vehicle to hang more steadily.	855	5th Aug. 1766	Thomas Pease.
Making springs for coaches and other carriages, with a worm and pin, and with or without a plate fixed to answer many useful purposes.	861	8th Nov. 1766	Richard Tredwell.
Springs for hanging coaches and other carriages -	863	21st Nov. 1766	John Hatchett.
Springs for coaches and other four-wheeled carriages.	927	8th June 1769	Christopher Reeves.
Spiral springs, hoop-wheels, and leather boxes for wheeled carriages.	932	13th July 1769	Joseph Jacob.
Applying springs to the shafts of two-wheeled carriages,—“anti-mobile.”	2307	16th April 1799	Henry Wildey.
Application of springs to wheel carriages - -	4092	20th Jan. 1817	William Manton.
Springs applicable to various descriptions of carriages [made of lance wood instead of steel] - -	4562	17th May 1821	{ Robert Paul. Samuel Hart.
Manufacture of springs, chiefly applicable to carriages [of bars of steel, rolled in convex forms].	5371	23rd May 1826	Richard Slagg.
Apparatus on which to suspend carriage bodies [springs formed by helical coils of steel wire, or by pieces of india-rubber in boxes].	5423	18th Nov. 1826	Henry Charles Lacey.
Coach and other springs - - - -	5811	4th July 1829	George King Sculthorpe.
Springs, or combination of springs, applicable to carriages and to other purposes.	5908	27th Feb. 1830	Moses Poole.
Application of spring carriages [applying springs to carriages].	6054	17th Dec. 1830	Augustus Graham.
Springs applicable to carriages - - - -	6722	25th Nov. 1834	Robert Joseph Barlow.
Combination or arrangement of springs for carriages.	6992	30th Jan. 1836	William Boulnois.
An improved spring or arrangement of springs for wheel carriages.	7457	4th Nov. 1837	Richard Joshua Iremonger.
Springs and braces of wheel carriages - - -	7811	13th Sept. 1838	Archibald McLellan.
Construction of springs for carriages - - -	7924	3rd Jan. 1839	Louis Mathurin Busson du Maurier.
Improvements applicable to springs for wheeled carriages.	8136	29th June 1839	Moses Poole.
Application of springs to carriages - - -	8521	28th May 1840	William Henry Smith.
Manufacture of springs for carriages - - -	9653	2nd March 1843	William Walker.
Construction of carriage springs - - - -	10,343	10th Oct. 1844	John Bower Brown.
Applying springs to carriages - - - -	10,456	11th Jan. 1845	John Gollop.
Springs and elastic power as applicable to vehicles, and to other articles and purposes - - -	10,750	3rd July 1845	{ Thomas Walker. George Mills.
Two and four wheeled carriages [springs] - - -	11,336	15th Aug. 1846	William Aitkin.
Construction of wheel carriages and engines moved or retarded by animal or mechanical agency;—partly applicable to like purposes [construction of springs for wheel carriages].	11,445	2nd Nov. 1846	William Bridges Adams.
Springs for carriages and for other purposes - -	11,649	8th April 1847	{ Charles De Bergue. John Coope Haddan.
Machinery for bending and fitting plates or bars of steel, iron, and other materials, to be used for locomotive-engine and carriage springs, and for other purposes.	12,173	1st June 1848	Thomas Burdett Turton.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Metallic springs for carriages - - - -	12,699	7th July 1849	{ Edward Ives Fuller. George Tabernacle.
Connecting the springs of wheeled carriages with the axle or axle-boxes.	12,925	11th Jan. 1850	James M'Donald.
Construction and means of applying carriage and certain other springs - - - - }	13,045	18th April 1850	{ William Buckwell. George Fisher.
Construction of springs for carriages and other uses.	13,090	1st June 1850	Moses Poole.
Construction and means of applying carriage and other springs.	13,510	11th Feb. 1851	James Webster.
Springs and spring bearings for carriages - -	14,010	8th March 1852	Uriah Scott.
<b>VI.—Seats and Steps.</b>			
Inside seat for coaches, carriages, and chariots, with braces and springs.	813	25th May 1764	John Foster.
Steps for coaches, chariots, phaetons and other carriages, which let down and take up by the opening and shutting of the door.	1353	22nd Jan. 1783	Philip Godsal.
Steps for coaches, chariots, gigs, and other carriages.	2142	25th Oct. 1796	Edward Thomason.
Making steps for coaches, chariots, landaus, &c., and all kinds of carriages with which steps are used.	2282	22nd Dec. 1798	Edward Thomason.
Machinery to be attached to carriages for the better accommodation of passengers.	2854	27th May 1805	Samuel Miller.
Steps to ascend to and descend from coaches and other carriages.	5194	21st June 1825	Ross Corbett.
Seats for carriages - - - - -	7540	13th Jan. 1838	Edward Davy.
Outside seats of carriages - - - - -	11,191	5th May 1846	George Palliser.
Steps for carriages and other purposes - - -	11,371	17th Sept. 1846	David Davies.
<b>VII.—Windows and Lights.</b>			
Making square window-glasses for chaises and coaches.	244	7th Jan. 1685	John Bellingham.
Machinery for hanging coach-lights - - -	1851	11th Feb. 1792	William Barbor.
Securing carriage glasses - - - - -	3818	25th June 1814	{ John Maherly. John Barrow.
Carriages [mechanism for moving carriage shutters] -	8392	22nd Feb. 1840	William Cook.
Improvements applicable to carriage windows - -	11,903	14th Oct. 1847	Thomas Horne.
<b>VIII.—Easing Draught and diminishing Friction in Coaches.</b>			
Engine to be attached to coaches, chariots, waggons, and such like conveyances, to facilitate their motion.	153	3rd July 1667	Sir Ellis Leighton.
Cancelling the friction of the wheel, pulley, balance and pendulum, in land carriages drawn on wheels, by which engines will be worked with much less power; additional contrivance causing the same power to act more swiftly, and to lift greater weight.	543	1st Feb. 1734	Jacob Rowe.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Destroying friction in wheeled carriages - - -	1602	12th May 1787	Watkin George.
Instruments or implements for safety and convenience and to lessen the friction in wheeled carriages.	1891	24th May 1794	John Lewis De Lolme.
Machine to reduce the labour of draught - -	2103	6th April 1796	Samuel Godfrey.
Draught of carriages - - - - -	2254	3rd Aug. 1798	Stephen Halladay.
Facilitating the draught of carriages - - -	2266	10th Nov. 1798	{ Edward Shorter. William Anthony.
Machinery to be applied to and adopted in the construction of wheel carriages, for increasing the power of the draught, so as to reduce the quantity of the active force necessary to be employed therein.	2408	30th May 1800	William Turner.
Easing the labour and lessening the number of horses in the draught of coaches, carts, waggons, drays, and all land carriages whatsoever.	2538	12th Sept. 1801	Thomas German.
Anti-friction rollers or wheels, to assist carriage wheels.	2688	20th Nov. 1806	John William Lloyd.
Reducing friction in axletrees, axletree-boxes, and other such moving parts of machinery.	3616	26th Nov. 1812	Joseph Bramah.
Easing the draught of land carriages - - -	3827	26th July 1814	William Doncaster.
Reducing friction in wheel carriages - - -	4110	11th March 1817	William Panter.
Construction of wheels of wheeled carriages, and all other vertical wheels of a certain size [ <i>a system of anti-friction rollers mounted in the wheel and surrounding the axle to prevent friction</i> ] - - -	4709	27th Sept. 1822	{ John Whitcher. Matthew Pickford. James Whitbourn.
Axletrees to remedy the extra friction on curves, to waggons, carts, &c.	5325	23rd Jan. 1826	Robert Stephenson.
Diminishing friction in wheeled carriages and other rotary machinery [ <i>by adapting an anti-friction roller to the bearing of the axles</i> ].	5542	15th Aug. 1827	William Spong.
Diminishing friction in wheeled carriages to be used on rail and other roads;—applicable to other purposes.	5796	30th May 1829	Ross Winans.
Apparatus to be added to wheels to facilitate the draught of carriages on turnpike and common roads.	7093	13th May 1836	John Ashdowne.
Reducing the friction of axletrees and axletree-boxes, and other such moving parts of machinery.	8067	13th May 1839	Moses Poole.
Reducing friction in wheels of carriages - - -	8333	3rd Jan. 1840	Charles Greenway.
Reduction of friction in axles - - - - -	9928	7th Nov. 1843	William Rowan.
Applying apparatus to carriages to facilitate the draught.	11,357	29th Aug. 1846	James Boydell, junior.
Means of diminishing draught and friction in carriages and other conveyances.	11,373	17th Sept. 1846	Henry Wrigg.
Controlling friction in joints and other parts of carriages.	11,706	22nd May 1847	Charles Chinnock.
Reducing the friction of axles - - - - -	12,338	23rd Nov. 1848	Christian Schiele.
<b>IX.—Drags for Coaches; locking Wheels; attaching, stopping, and disengaging Horses; guiding Carriages.</b>			
Engine applicable to a coach, whereby the horses may be instantaneously disengaged in cases of emergency.	181	8th Feb. 1661	Edward Marquis of Worcester.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Preventing the inconveniences arising from the running away of horses with coaches, chariots, chaises, and other four-wheeled carriages.	540	11th May 1733	Thomas Lugg.
Machine for disengaging horses from coaches, carriages, and other conveyances, on an emergency.	838	28th Jan. 1766	Thomas Hillcoat.
Locking the wheels of carriages of carts, particularly those with two wheels.	1669	12th Sept. 1788	John Isherwood.
Wheel-iron for a coach, chariot, chaise, phaeton, or any other four-wheeled carriage, improved by means of a screwed box, nut, or eye, which, passing through the wheel, and being screwed on the fore-axletree and also to the inside of the splinter-bar, by aid of a screwed box-end, will keep the same in its proper position, and prevent the wheels coming off while in action.	1842	25th March 1793	Henry Wildey.
Apparatus for disengaging horses from carriages, in cases of danger.	2587	27th Feb. 1802	Richard Pottinger.
Preventing accidents liable to occur in carriages drawn by horses [ <i>disengaging the horses</i> ].	2588	27th Feb. 1802	John Lewis.
Machine to prevent danger to persons driving in curricles, chaises, and other carriages, in consequence of horses taking fright while harnessed thereto.	2596	24th March 1802	Philip James Meyer.
Disengaging horses from carriages - - - -	2600	24th March 1802	John Williams.
Machinery for dragging or locking the wheels of carriages, and for disengaging the horses therefrom - - - - -	2664	29th Nov. 1802	{ James Roberts. Edward Brine.
Guidance of carriages, and rendering them less liable to overturn ("George's wain").	3106	4th Feb. 1808	John Dumbell.
Locking carriage wheels when passing down declivities.	3270	2nd Nov. 1809	Joseph Bramah.
Apparatus to be added to the axletrees and wheels, or naves of wheels of carriages, to check their motion.	3311	26th Feb. 1810	Charles Le Caan.
Machine for dragging, locking, and scotching the wheels of carriages.	3440	1st May 1811	George Alexander Thompson.
Apparatus for stopping carriages - - - -	3475	7th Aug. 1811	William Taylor.
Drag to be applied to the wheels of carriages - -	3490	14th Sept. 1811	Edward Silvester.
Facilitating the turning of four-wheeled carriages without having recourse to locks, or without the necessity of making the fore-wheels lower than the hinder, or of raising the bodies of such carriages higher than usual.	3749	9th Nov. 1838	Charles Wilks.
Attaching horses to carriages - - - -	3958	14th Nov. 1815	George Morton.
Apparatus for applying the drag to a carriage wheel.	4308	12th Nov. 1818	George James Clark.
Drag for coaches, carriages, or other vehicles - -	4322	23rd Dec. 1818	John Ruthven.
Machine to be attached to carriages as a substitute for a drag, to regulate the speed and prevent accidents in going down hill.	4437	10th Feb. 1820	James Huggett.
Drags for carriages - - - - -	4778	16th April 1823	Joseph Johnson.
Harness to be used with carriages [ <i>a cord passed round a drum, which, when locked to the wheel, draws back the horse and stops the vehicle</i> ].	5216	16th July 1825	Thomas Cook.
Stopping horses when running away with riders or carriages.	5619	21st Feb. 1828	Thomas Otway.
Wheel carriages [ <i>apparatus for locking the fore-wheels</i> ].	5680	11th Aug. 1828	John Lane Higgins.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COACHES, &amp;c.—continued.</b>			
Apparatus to be attached to carriages for the purpose of affording safety in travelling [ <i>locking the wheels and disengaging the horses</i> ].	5727	10th Dec. 1828	Zachariah Riley.
Drag or apparatus to retard or stop stage-coaches and other wheeled carriages.	5764	31st Jan. 1829	Robert Parker.
Machinery for guiding propelled carriages - -	5853	30th Sept. 1829	John Moore.
Machine or substitute for the drags for carriage wheels, and for other purposes.	5887	26th Jan. 1830	George Frederick Johnson.
Apparatus or contrivance for preventing accidents in carriages, gigs, and other vehicles, by instantly liberating horses or other animals from the same when in danger or otherwise; locking and securing the wheels in like cases.	5994	7th Sept. 1830	Peter Williams.
Apparatus for preventing accidents with carriages in descending hills or other perilous situations [ <i>apparatus to retard the progress of the carriages</i> ].	6406	4th April 1833	Edward Boys, junior.
Drags or apparatus to be applied to carriages - -	6456	7th Aug. 1833	David Rees.
Apparatus for preventing accidents to travelling carriages of various descriptions [ <i>apparatus for locking wheels</i> ].	6679	25th Sept. 1834	Cornelius Tongue.
Apparatus for retarding or locking carriage wheels -	6773	25th Feb. 1835	Patrick Seyton Hynes.
Safety-drag or lever-slide for carriages - - -	6828	9th May 1835	William Simpson.
Retarding the progress of carriages - - -	6972	31st Dec. 1835	John Blyth.
Drags or apparatus for retarding coaches - -	7197	28th Sept. 1836	Richard Pearson.
Drags or apparatus applicable to carriages - -	7218	8th Nov. 1836	John Whitcher.
Apparatus for stopping or retarding carriages - -	7575	24th Feb. 1838	John Houlston.
Apparatus to be attached to carriages, for stopping the horses or checking their speed.	7677	7th June 1838	Robert Thomas.
Retarding wheeled carriages - - - - -	8197	6th Aug. 1839	Robert William Jearard.
Apparatus for dragging or skidding wheels of wheeled carriages.	8899	22nd March 1841	Joseph Wright.
Retarding the progress of carriages under certain circumstances.	9020	7th July 1841	Thomas Fuller.
Construction of breaks for carriages - - -	9291	10th March 1842	Henry Smith.
Drags or breaks to be applied to the wheels of } carriages generally - - - - - }	9456	31st Aug. 1842	{ Charles Thatcher. Thomas Thatcher.
Apparatus for retarding the progress of carriages -	9459	8th Sept. 1842	William Warburton.
Apparatus for retaining the wheels of carriages on the breaking of an axle or otherwise.	9635	17th Feb. 1843	James Boydell.
Breaks or machinery for stopping or retarding carriages.	10,998	10th Dec. 1845	Thomas Victor Allier.
Machinery for obtaining and applying, accelerating } and retarding, motive-power [ <i>mode of employing</i> <i>breaks for carriages</i> ] - - - - }	11,442	5th Nov. 1846	{ Frederick Herbert Maberly. Thomas Branwhite. Dennis Lusher.
Protecting persons and property from accidents in carriages [ <i>by a break set on the axletrees</i> ].	12,754	30th Aug. 1849	Isidore Bertrand.
Application of magnetic power for stopping carriages.	13,269	3rd Oct. 1850	Jean Pierre Paul Amberger.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COFFEE, COCOA, CHOCOLATE, AND TEA.</b>			
<b>Hulling, roasting, grinding, and preparing.</b>			
Roasting coffee in a furnace with a barrel, box, and flue, and without the use of a charcoal or wood fire.	373	22nd Dec. 1704	Richard Bull.
Machinery for making chocolate - - - -	474	10th Feb. 1725	James Workman.
Engine for making chocolate - - - -	514	24th Jan. 1730	Walter Churchman.
Machine for making chocolate - - - -	798	3rd Nov. 1763	William Bill.
Compounding roasted coffee - - - -	984	6th March 1771	John Dring.
Mill for husking coffee - - - -	1094	31st Jan. 1775	William Panter.
Mills for grinding coffee - - - -	1214	22nd March 1779	Richard Dearman.
Preparing cocoa-nuts with other ingredients, for making the same into cocoa.	2012	29th Sept. 1794	Francis Garratt.
Roasting cocoa-nuts - - - -	2048	7th May 1795	Joseph Storrs Fry.
Apparatus for and mode of drying coffee - -	2639	2nd Aug. 1802	Charles Wyatt.
Machine for dressing coffee, &c. - - - -	2989	20th Nov. 1806	James Henckell.
Preparing coffee - - - -	3480	9th Sept. 1811	Walter Rochfort.
Roasting coffee - - - -	3577	25th June 1812	Anthony Schick.
Mills for grinding coffee - - - -	3916	23rd May 1815	Archibald Kenrich.
Roasting coffee and other vegetable substances; machinery employed therein; examining and regulating the process whilst substances are exposed to the said operation [ <i>in a close stove</i> ].	4907	28th Feb. 1824	Richard Evans.
Preparing the leaf of a British plant for producing a healthy beverage by infusion.	6055	21st Feb. 1831	Richard Abbey.
Metallic mills for grinding coffee - - - -	6152	11th Aug. 1831	David Selden.
Hulling and cleansing coffee - - - -	6632	24th June 1834	John Chester Lyman.
Machine for preparing and cleansing coffee from the husk and separating the different qualities, so as to render it better adapted for roasting and for consumption.	7329	21st March 1837	Robert Neilson.
Process for improving teas as ordinarily imported -	7414	5th Aug. 1837	Alexander Macewan.
Preparing cocoa and chocolate - - - -	10,885	16th Oct. 1845	John Marshall.
Pulping, dressing, and sorting coffee - - -	10,979	4th Dec. 1845	James Meacock.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>roasting coffee</i> ].	11,149	25th March 1849	Charles Smith.
Process for preserving the flavour of coffee and cocoa or preparations thereof, from the effects of the atmosphere.	11,198	5th May 1846	William Pidding.
Treating or dressing coffee to render it more wholesome for use.	11,599	25th Feb. 1847	Robert Snowden.
Drying apparatus for artificially curing and preserving berries of coffee.	11,914	21st Oct. 1847	Robert Richardson Banks
Cleaning and roasting coffee; apparatus and machinery to be employed therein.	11,988	8th Dec. 1847	William Dakin.
Mechanism for reducing and grinding coffee and other substances.	12,058	8th Feb. 1848	Luke Hebert.
Cleaning and roasting coffee; apparatus and machinery used therein.	12,198	3rd July 1848	Elizabeth Dakin.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COFFEE, COCOA, &amp;C.—continued.</b>			
Application, removal, and compression of atmospheric air [ <i>in roasting coffee, chicory, and other materials</i> ].	12,318	2nd Nov. 1848	Thomas John Knowlys.
Apparatus for roasting and grinding coffee - - -	12,766	13th Sept. 1849	Apoleon Pierre Preterre.
Treating fatty, oleaginous, resinous, bituminous, and cerous bodies; manufacture and application of them, and of their components and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [ <i>production of theobromine and bromage from cocoa and other nuts or kernels</i> ] - - - - -	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Manufacture of chicory; machinery or apparatus for the manufacture thereof.	13,346	14th Nov. 1850	William Duckworth.
Apparatus for roasting coffee and cocoa - - -	14,110	1st May 1852	Edward Gee.
Pulping cherry coffee; machinery applicable thereto	14,303	24th Sept. 1852	Robert Bowman Tennent.
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<b>COMBS FOR THE HAIR.</b>			
Machine for manufacturing combs - - -	923	22nd March 1769	John Ayscough.
Machine for cutting and making combs - - -	2119	28th June 1796	William Bundy.
Machinery for slitting, fashioning, pointing, sinking down, bottoming and founding, ivory, bone, horn, tortoise-shell, and box combs.	2338	13th Aug. 1799	Edward Woods.
Joining and combining horn and tortoise-shell by heat and pressure, giving it the appearance of tortoise-shell, with the strength and elasticity of horn, for manufacturing combs.	4111	18th March 1817	John Winter.
Manufacture of combs - - - - -	7227	19th Nov. 1836	William Norris.
Combs for the hair - - - - -	9241	29th Jan. 1842	John James Baggaly.
Combs - - - - -	9301	21st March 1842	William Hancock.
Apparatus for improving and restoring human hair [ <i>applying a galvanic current to combs and brushes</i> ].	14,077	20th April 1852	Robert Griffiths.
Manufacture of combs [ <i>by combining caoutchouc with sulphur</i> ].	14,306	30th Sept. 1852	Moses Poole.
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Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CONDENSING.</b>			
<b>I.—Liquids and Solutions.</b>			
Condensing and cooling spirits in the process of distillation, by means of machinery not before used.	2163	7th Feb. 1797	John Falconer Atlee.
Improvements applicable to condensing liquids, and to other purposes.	4192	19th Dec. 1817	Jean Frederick Marquis de Chabannes.
Condensing apparatus, to be applied to apparatus for making vinegar.	5326	4th Feb. 1826	Robert Rigg.
A certain improvement in the condenser used with the petitioner's apparatus for boiling sugar in vacuo, for which a patent was granted to him the 29th day of March 1828, entitled " <i>An improvement in boiling or evaporating solutions of sugar and other liquids.</i> "	5785	29th April 1829	John Davis.
Machinery used in brewing [ <i>condensing by a system of pipes in a close vessel.</i> ]	5974	5th Aug. 1830	Æneas Coffey.
Apparatus for decomposing common salt; conducting the process [ <i>condensing apparatus.</i> ]	7267	24th Dec. 1836	William Gossage.
Condensers - - - - -	8111	17th June 1839	Henrik Zander.
Condensers - - - - -	10,245	3rd July 1844	Octavius Henry Smith.
Improvements applicable to purposes of condensation.	10,916	3rd Nov. 1845	Thomas Bell.
<b>II.—Steam.</b>			
Condensing steam arising in distillation, in the worm, tub, or steam-vessel, by keeping cold water applied constantly or otherwise, around the worm.	1047	19th July 1773	Thomas Danforth.
Condensing steam - - - - -	2212	1st Feb. 1798	Richard Shannon.
Improvements applicable to condensing steam and other aqueous vapours in distillation or evaporation.	4058	11th Aug. 1816	James Neville.
Apparatus for condensing alcoholic steam arising from spirituous liquors, such as wine, beer, cyder, &c., during their fermentation.	4588	11th Sept. 1821	Dominique Pœrre Deurbroucq.
Apparatus for condensing steam arising from stills during distillation.	5368	23rd May 1826	Dominique Pœrre Deurbroucq.
Apparatus for condensing the steam of the steam-engine after it has propelled the steam-engine piston.	5853	30th Sept. 1829	John Moore.
Condensing steam or vapour used in working steam-engines.	6172	28th Sept. 1831	Miles Berry.
Condensing the steam of steam-engines wrought by a vacuum produced by condensation.	6204	22nd Dec. 1831	Samuel Hall.
Condensing the steam of engines worked by a vacuum produced by condensation; also condensation applicable to other purposes.	6359	9th Jan. 1833	Samuel Hall.
Condensing steam generated in boilers - - -	6390	21st Feb. 1833	Alexander Gordon.
Applying the water used for the purpose of condensation in marine and other steam-engines, to the condenser.	6602	6th May 1834	William Gittins.
Apparatus to be employed in the conveyance of goods and passengers by land ("Condenser").	6791	16th March 1835	William Church.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CONDENSING—continued.</b>			
Condensing steam in steam-engines - - -	7732	12th July 1838	{ Job Cutler. Thomas Gregory Hancock.
Steam-condensers - - - - -	7990	6th March 1839	Walter Hancock.
Condensing steam - - - - -	8550	24th June 1840	{ John Aitchison. Archibald Hastie.
Pyro-hydro-pneumatic apparatus, for condensing steam and other vapours.	9623	31st Jan. 1843	Charles Clark.
Apparatus for modifying temperature in the condensation of vapours, and in the cooling or heating of liquids and fluids.	10,111	19th March 1844	William Saunders.
Steam-engine condensers - - - - -	11,141	25th March 1846	Thomas Howard.
Pyro-hydro-pneumatic apparatus, for condensing steam and other vapours.	11,275	29th June 1846	Charles Clark.
Condensing the steam of steam-engines - - -	11,315	27th July 1846	John Augustin Alexis Sauvage.
Machinery for condensing steam;—applicable to other purposes.	11,717	27th May 1847	Christian Schiele.
Generating and applying motive-power [condensers]	12,915	18th Oct. 1849	Ethan Campbell.
Means and apparatus for condensing the steam used in locomotive-engines.	13,210	31st July 1850	Edouard Gabriel Leroy.
Condensing steam - - - - -	13,432	28th Dec. 1850	Thomas Symes Prideaux.
Apparatus for condensation of steam [for producing fresh water on board steam-ships].	13,625	8th May 1851	William Edward Newton.
<b>III.—Fumes, Gases, &amp;c.</b>			
Machine for condensing air, or for other purposes -	1817	7th July 1791	Francis Noble Knight.
Apparatus for combination and condensation of gases and vapours.	3323	6th April 1810	John Stancliffe.
Apparatus for exhausting, condensing, or propelling air, smoke, gas, or other æriform products.	5146	2nd April 1825	Simeon Broadmeadow.
Condensing the gases produced by the decomposition of muriate of soda and certain other substances;—applicable to other purposes.	5753	28th April 1829	James Wright.
Air-stove apparatus, for the exhalation and condensation of vapours.	6016	20th Oct. 1830	Andrew Ure.
Condensation in the manufacture of gas for illumination.	6276	9th June 1832	George Lowe.
Condensing æriform substances - - - - -	6539	13th Jan. 1834	Joshua Bates.
Condensing and using the gaseous product produced in decomposing common salt; and apparatus for the purpose.	7267	24th Dec. 1836	William Gossage.
Decomposing muriate of soda or common salt [condensing muriatic-acid gas].	7523	23rd Dec. 1837	William Losh.
Apparatus for condensing and concentrating æriform and other fluids.	8755	28th Dec. 1840	John Buchanan.
Condensing and collecting the sulphurous and metallic vapours evolved in treating all kinds of ores by heat.	9139	4th Nov. 1841	Jules Lejeune.
Condensing gas and applying it to certain perishable articles.	10,322	19th Sept. 1844	Michael Fitch.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CONDENSING—continued.</b>			
Treating noxious vapours arising from chimneys and from chemical and other works [ <i>condensing the muriatic acid evolved in the manufacture of sulphate of soda</i> ].	10,519	10th Feb. 1845	Oglethorpe Wakelin Barratt.
Condensing and employing vapours from furnaces or other apparatus.	11,027	6th Jan. 1846	Henry Watson.
Condensation in the manufacture of gas for illumination.	11,238	4th June 1846	George Lowe.
Condensation of metallic fumes - - - -	12,246	21st Aug. 1848	Thomas Richardson.
Smelting and refining lead ores [ <i>condensing and refining metallic fumes</i> ] - - - -	12,256	28th Aug. 1848	{ William Young. Henry Burgess Young.
Machinery for condensing and cooling gases - -	12,270	21st Sept. 1848	Joseph Lillie.
Machinery and apparatus for condensing smoke gases and other noxious vapours arising from fireplaces, furnaces and chemical works; rendering the products resulting therefrom available for the manufacture of colours - - - -	13,412	16th Dec. 1850	{ Richard Rodham. Edward Robert Hoblyn.
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<b>COOKING;—CULINARY APPARATUS.</b>			
<b>I.—Roasting-jacks, Ships' Fire-hearths, and other Apparatus for Cooking; chopping Meat, &amp;c.</b>			
Engine for turning brooches - - - -	21	8th Aug. 1622	{ David Ramsey. John Jacke.
Ships' fire-hearths, made of iron, copper, or other metals.	197	20th March 1676	William Castle.
Making the steam of boiling liquors useful for boiling and baking - - - -	430	25th June 1720	{ John Theophilus Desaguliers. Daniel Niblett. William Vreen.
Double and single kettles and boilers, of wrought-iron plate, instead of copper for the navy.	688	31st Jan. 1754	William Johnson.
Machine, instead of a jack, for turning spits used in the roasting of meat - - - -	676	18th May 1767	{ John Duncombe. Joseph Pohle.
Boiler, pot, or utensil of metal for dressing ships' provisions with sea-water or other water, and purifying the same; also extracting broths or soups.	917	16th Feb. 1769	George Scott.
Machine for roasting, boiling, and baking, consisting of a portable fire-stove, an air-jack, and a meat-screen, to be used in the field, in ships, and houses, where they may be separately used	964	19th July 1770	{ Joseph Strutt. Jedediah Strutt.
Machine for dressing from one to twenty-one different dishes at once, with one fire; "the economist."	972	6th Dec. 1770	Bartholomew Dominicetti.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COOKING, &amp;c.—continued.</b>			
Curious smoke-jack, to roast horizontally and perpendicularly.	975	28th Dec. 1770	Peter Clare.
Spring-jack, having a reflector to increase the heat and thereby save fuel.	1032	29th Jan. 1773	Joseph Merlin.
Salisbury portable kitchen, for cooking provisions in any room or in the open air, without the assistance of a common fireplace.	1261	29th June 1780	William Redman.
Ship stove, kitchen, or hearth, with a smoke-jack and iron boilers.	1271	8th Dec. 1780	Alexander Brodie.
Machine for cooking - - - - -	1389	2nd Oct. 1783	Samuel Wingfield.
Ship's hearth or stove, with kettles (copper and iron), for dressing food on board ships, and for economy of fuel.	1413	16th Jan. 1784	Stephen Beck.
Ship's hearth or stove, with kettles (copper or iron), for dressing food on board ships, and for economy of fuel.	1463	28th Jan. 1785	Stephen Beck.
Roasting-jack, with pulleys and other appurtenances; "Tourne-broche."	1465	18th Feb. 1785	John Martin.
Machine for roasting many joints of meat, turkeys, geese, fowls, ducks, &c., both horizontally and vertically, at the same time or separately, and to the weight of one hundred pounds or more, in such manner that several joints may be ready at one time, or progressively one after another, as wanted.	1666	15th Aug. 1788	William Hanscomb.
Conveying the heat arising from the fires of coke ovens, and adapting the same to cooking.	1689	23rd June 1789	Right Hon. Henry Seymour Conway.
Vertical weight and spring roasting-jack - -	1737	24th March 1790	William Freemantle.
Machine with utensils for cooking - - -	1859	2nd March 1792	James Tate.
Pneumatic kitchen for cooking by steam, being a method of supplying the boiler with water to replace the quantity expended by evaporation, which method may also be applied to a pump.	1927	21st Dec. 1792	Stanley Howard.
Machine for roasting meat or other food - -	1986	7th May 1794	William Whittington.
Smoke-jacks - - - - -	2064	8th Sept. 1795	John Prosser.
Construction of smoke-jacks - - - - -	2065	18th Sept. 1795	John Braithwaite.
Portable baking-stove - - - - -	2118	23rd June 1796	William Whittington.
Machine for cooking - - - - -	2150	5th Dec. 1796	James Tate.
Portable stove or kitchen for dressing and cooking food.	2500	12th May 1801	Edward Walker.
Machines for cooking - - - - -	2522	26th June 1801	George Stratton.
Machine for roasting meat by steam, and for other purposes where small powers are employed }	2945	24th June 1806	{ Thomas Bourne. William Chambers. Chester Gould.
Apparatus for cooking by steam or water - -	2973	7th Oct. 1806	Ralph Sutton.
Improvements in smoke or air jacks, which may be applied to those now in use.	2982	30th Oct. 1806	John Prosser.
Jack for roasting meat - - - - -	3075	19th Oct. 1807	Edward Shorter.
Machine for cooking by means of steam - -	3401	4th March 1811	Edward Savage.
Cooking-stove - - - - -	3444	7th May 1811	John Ball.
Machine for chopping meat for sausages, and other like purposes.	3477	7th Aug. 1811	William Davis.
Horizontal and vertical moving roaster - - -	3554	15th April 1812	John Ashley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COOKING, &amp;c.—continued.</b>			
Arrangements of machinery for improvement of ships' fire-hearths, and for other purposes.	3556	21st April 1812	Charles Fly Blunt.
Machine for cooking without wood or coal - -	3653	3rd March 1813	John White.
Apparatus for cooking victuals - - - -	3661	9th March 1813	Benjamin Merriman Coombs.
Cooking apparatus - - - - -	3782	12th Feb. 1814	Richard Price.
Portable kitchen - - - - -	3890	7th March 1815	Thomas Deakin.
Cooking apparatus - - - - -	4044	2nd July 1816	John Barlow.
Cooking machine, useful for decomposing salt water, and rendering the same useful for the general purposes of a ship's crew at sea.	4201	15th Jan. 1818	James Fraser.
Cooking apparatus - - - - -	4408	4th Nov. 1819	John Heard.
Cooking apparatus, or "philosophical cookery" -	4452	29th April 1820	Thomas Cook.
Cooking apparatus - - - - -	4561	9th May 1821	George Frederick Eckstein.
Making a kitchen-range and apparatus for cooking and other purposes.	4579	4th Aug. 1821	John Slater.
Horizontal roasting-jacks;—applicable to other purposes.	4585	23rd Aug. 1821	William Lane.
Cooking apparatus - - - - -	4687	26th June 1822	{ Thomas Postans. William Jeakes.
Construction and manufacture of spring-jacks, and their connection with roasting apparatus.	4693	27th July 1822	John Pearse.
Ships' cabooses or hearths - - - - -	4706	27th Sept. 1822	{ John Dowell Moxon. James Frazer.
Constructing a roasting-jack [ <i>smoke jack</i> ] - -	5087	1st Feb. 1825	John Thin.
Cooking apparatus - - - - -	5283	8th Nov. 1825	William Erskine Cochrane.
Construction of cooking apparatus - - - -	5346	18th April 1826	John Bellingham.
Ships' hearths, and apparatus for cooking by steam	5352	27th April 1826	John Williams.
Processes, utensils, apparatus, machinery and operations, applicable to the preparing, extracting, and preserving various articles of food, the component parts of which utensils, apparatus, and machinery are of different dimensions, proportionate to the different uses in which they are employed, and may be separately applied in preparing, extracting, and preserving food, and in other useful purposes [ <i>steam-stove or steam-kettle</i> ].	5523	12th July 1827	Robert Vazie.
Cooking apparatus - - - - -	5608	15th Jan. 1828	William Erskine Cochrane.
Cooking apparatus - - - - -	5921	20th March 1830	William Erskine Cochrane.
Apparatus to be applied in the process of baking, for the purpose of saving materials.	5944	29th June 1830	Robert Hicks.
Improvements upon the safety-hearth for the use of vessels.	6102	31st March 1831	John Wallace.
Culinary apparatus - - - - -	6130	6th July 1831	Robert Hicks.
Kitchen or other grates or ranges (Weeks' cooking apparatus).	6677	20th Sept. 1834	Edward Weeks.
Ships' hearths or cabooses - - - - -	6730	23rd Dec. 1834	Henry Stothert.
Apparatus for cooking - - - - -	7114	13th June 1836	Jacob Perkin
Apparatus for torrefying, baking, and roasting vegetable substances.	7115	13th June 1836	Miles Barry.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COOKING, &amp;c.—continued.</b>			
Apparatus for applying prepared fuel to culinary and domestic purposes.	7593	15th March 1838	Thomas Joyce.
Frying and grilling pan, for cooking steaks, chops, and other meats.	8051	25th April 1839	John Jones.
Apparatus for roasting, baking, or cooking; "Plantanium roaster."	8122	22nd June 1839	George Calder.
Methods of producing or manufacturing certain inflammable substances, and of applying the heat and light derived from certain inflammable substances to various useful purposes [ <i>cooking by the flame of liquid tar</i> ].	8141	3rd July 1839	Alexander Cruickshanks.
Apparatus for cooking - - - - -	8157	20th July 1839	Edward Brown.
Stoves applicable to cooking - - - - -	8202	21st Aug. 1839	Stephen Joyce.
Apparatus for cooking - - - - -	8547	17th June 1840	{ Richard Prosser. John James Rippon.
Apparatus employed in roasting and baking animal food.	9268	25th Feb. 1842	William Saunders.
Apparatus for cooking - - - - -	9377	2nd June 1842	Henry Jubber.
Gridirons, frying-pans, and other cooking utensils -	10,068	24th Feb. 1844	Robert Rettie.
Apparatus for cooking - - - - -	10,264	18th July 1844	Charles Armengaud.
Cooking apparatus - - - - -	10,499	28th Jan. 1845	George James Norton.
Ships' fire-hearths - - - - -	10,576	27th March 1845	{ William Bowser. William Bowser, junior.
Construction of roasting-jacks - - - - -	10,714	10th June 1845	Thomas Silver Shaw.
Applying heat for cooking; apparatus connected therewith.	11,111	25th Feb. 1846	John Britten.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>portable ovens; portable apparatus for baking, boiling, or cooking by steam at the same time over an ordinary fire; method of toasting, boiling, or roasting</i> ].	11,149	25th March 1846	Charles Smith.
Apparatus for cooking, preparing, and containing food and drinks;—partly applicable to other purposes.	11,992	8th Dec 1847	John Britten.
Generating, indicating, and applying heat [ <i>constructing and working roasting-jacks</i> ]. - - - - -	12,110	5th April 1848	{ Thomas John Knowlys. William Fillis.
Apparatus for cooking food; preparing materials for constructing the same; also constructing vertical roasting-jacks, and chains for the same;—partly applicable to other purposes.	12,548	28th March 1849	John Britten.
Construction and arrangement of apparatus for cooking [ <i>lining the inside with porcelain or earthenware; a biscuit-pan</i> ].	12,642	7th June 1849	Thomas Masters.
Apparatus for cooking - - - - -	12,768	13th Sept. 1849	Apoleon Pierre Preterre.
Fireplaces and flues, and apparatus connected therewith [ <i>application of stewing-plates to an isolated brick oven</i> ].	13,022	23rd March 1850	Edward Welch.
Cooking and boiling apparatus - - - - -	13,460	18th Jan. 1851	George Norman.
Apparatus for cooking by gas - - - - -	13,599	24th April 1851	{ William Smith. Thomas Phillips.
Obtaining light and heat [ <i>gas cooking-apparatus and gridiron</i> ] - - - - -	13,783	22nd Oct. 1851	{ William Boggett. George Holworthy Palmer.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COOKING, &amp;c.—continued.</b>			
<b>II.—Saucepans and other Vessels, and Parts of the same.</b>			
Double and single boilers, made of wrought-iron plate, instead of copper, for the navy.	688	31st Jan. 1754	William Johnson.
Engine for forming vessels or utensils of iron, and for planishing and burnishing the same when tinned, for the preparation and use of food.	1138	25th Nov. 1776	John Browne.
Making utensils and articles of grain tin, alone or united with another metal, for the purpose of cooking or confectionery.	1251	7th April 1780	John Elwell.
Utensils for cooking, boiling, and warming all sorts of fluids.	1589	1st Feb. 1787	James Tate.
Manufacturing copper and tin-plate vessels	2262	10th Oct. 1798	John Grenfell.
Improving and beautifying vessels used for culinary and other purposes.	2296	28th Feb. 1799	Samuel Sandy Hickling.
Manufacturing zinc into vessels and utensils for culinary and other purposes	2842	29th April 1805	{ Charles Hobson. Charles Sylvester.
Application of stamps, dies, and piercing tools, to the manufacture of ears, handles, and bewells for culinary articles of every description, and whether in wood, iron, brass, copper, tin, silver, or mixed metals.	3195	23rd Jan. 1809	Samuel Whitfield.
Mountings for culinary and other utensils	3687	28th April 1813	Samuel Whitfield.
Machinery for making pans and stales of various kinds.	4055	14th Aug. 1816	Edward Biggs.
Making pans and stales of various kinds	4159	12th Aug. 1817	Edward Biggs.
Manufacture of handles for saucepans, kettles, and other culinary vessels; also tea-kettle handle-straps, and other purposes.	5321	19th Jan. 1826	William Whitfield.
Manufacture of certain culinary utensils and vessels	6445	29th June 1833	Christopher Piggott Banks.
Manufacture of copper vessels	8793	14th Jan. 1841	Alexander Jones.
Vessels for making infusions or decoctions for culinary purposes.	9277	4th March 1841	William Palmer.
Construction and application of a variety of cooking, culinary, and domestic articles and utensils, some of which are applicable to cleaning and to a variety of other purposes.	10,374	2nd Nov. 1844	Charles Smith.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>forming frying-pans and saucepans; applying handles to tubs, buckets, and pails</i> ].	11,149	25th March 1846	Charles Smith.
Handles to be applied to various articles for containing liquids or other matters liable to be spilt.	11,855	6th Sept. 1847	John Barke Gustavus Ferryman.
Vessels for holding solids or fluids; machinery for manufacturing such vessels.	12,616	22nd May 1849	Solomon Israel Da Costa.
Manufacture of kettles, saucepans, and other cooking vessels.	13,865	19th Dec. 1851	Samuel Wilkes.
<b>III.—Toast-stands.</b>			
Toast-stand	2969	2nd Oct. 1806	Henry Pratt.
Toast-tray, capable of being contracted or expanded at pleasure.	3083	28th Nov. 1807	Samuel Roberts.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COOKING, &amp;c.—continued.</b>			
Construction of a toast-stand (for the purpose of holding a plate before the fire), a hearth-brush or dust-brush, and toasting-fork; occasionally combining or uniting the said brush and toasting-fork in one utensil or article.	3364	18th July 1810	Benjamin Ager Day.
Toast-stand - - - - -	3882	7th Feb. 1815	William Griffith.
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<b>COOKING ;—MAKING BREAD AND CONFECTIONERY.</b>			
<b>I.—Kneading Dough, making Bread, Vermicelli, Sago, Tapioca, &amp;c.</b>			
Preparing and making sago, vermicelli, and soy, from American plants, equal in goodness to those from the East Indies.	878	1st July 1767	Samuel Bowen.
Making from wheat, semolina, the substance from which vermicelli and macaroni are manufactured.	1262	5th July 1780	Jacob Levy.
Conveying the heat arising from coke ovens for the purpose of baking bread, meat, or other food;—applicable to other purposes requiring fire or heat.	1669	23rd June 1789	The Right Honourable Henry Seymour Conway.
Machinery for kneading dough without manipulation.	3508	23rd Nov. 1811	Joseph Baker.
Machinery for kneading dough - - - - -	5804	19th June 1829	Moses Poole.
Preparation of certain substances, "British tapioca," and the cakes and flour to be made from the same.	5928	24th April 1830	John M'Innes.
Manufacturing dough or paste for baking into bread	5992	31st Aug. 1830	Edwin Clayton.
Machinery to be used in the process of making bread and biscuits.	6183	14th Oct. 1831	John Cowderoy.
Machinery and process used in the manufacture of bread, biscuits, and other articles formed of plastic materials;—applicable to other purposes	6257	13th April 1832	{ John James Clark. John Nash. John Longbottom.
Method of and apparatus for baking bread - - -	6285	19th July 1832	Robert Hicks.
Apparatus for and process of making bread from grain; and the application of other products for another product thereof, to certain useful purposes.	6370	24th Jan. 1833	Luke Hebert.
Method of and apparatus for baking bread - - -	6391	21st Feb. 1833	Robert Hicks.
Machinery for preparing farinaceous substances and making bread.	6396	8th March 1833	Thomas Don.
Machinery for making ship and other biscuit or bread.	6661	14th Aug. 1834	William Bruce.
Preparing certain farinaceous food - - - - -	7076	3rd May 1836	John Whiting.
Machinery and processes for purifying and economizing the manufacture of bread;—partly applicable to other purposes.	7106	2nd June 1836	Luke Hebert.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COOKING, &amp;c.—continued.</b>			
Making bread - - - - -	7548	23rd Jan. 1838	Herbert George James.
Machinery for making ships' bread or biscuits -	8018	3rd April 1839	William Overton.
Making bread and biscuits - - - - -	8443	25th March 1840	Samuel Hill.
Manufacture of bread - - - - -	8527	2nd June 1840	Pierre Dufaure de Montmirail.
Edible vegetable preparation called Eupooi, and mode of manufacturing the same.	8637	21st Sept. 1840	Charles Handford.
Preparing flour from grain and potatoes, by machinery.	9471	15th Sept. 1842	Frederick Bowles.
Bread, biscuits, macaroni, vermicelli, and pastry; mode of making the same.	9498	22nd Oct. 1842	Gilbert Claude Alzard.
Manufacturing farinaceous food - - - - -	10,359	22nd Oct. 1844	John Henry Rehé.
Preparing dough - - - - -	10,697	3rd June 1845	William Lucy.
Manufacture of bread - - - - -	11,007	20th Dec. 1845	Henry Mandeville Meade.
Manufacture of bread; machinery and apparatus } to be used therein - - - - - }	12,703	10th July 1849	{ George Augustus Robinson. Richard Egan Lee.
Baking bread, biscuits, and other matters - -	12,808	12th Oct. 1849	Michael Fitch.
Apparatus for kneading and baking bread and other articles of food of a similar nature.	12,844	8th Dec. 1851	Peter Armand le Comte de Fontainemorcau.
Process, composition, or combination of materials, also machinery and apparatus, for making bread and biscuits, part of which machinery is applicable to mixing and kneading plastic substances in general.	14,090	27th April 1852	William Exall.
<b>II.—Making Confectionery, Lozenges, &amp;c.</b>			
Machine for rolling and cutting lozenges;—applicable to other purposes.	9069	8th Sept. 1841	Joseph Drew.
Making comfits, confectionery, and lozenges; machinery and apparatus for making the same or any other article to which the same may be made applicable.	11,211	19th May 1846	George Duncan.
Manufacture of lozenges or sweetmeats - - -	11,316	29th July 1846	Thomas Lucas.
Preparation of certain substances for making various glutinous compounds [ <i>lozenges</i> ].	11,725	29th May 1847	Alfred Stevens.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>COOKING ;—MAKING DECOCTIONS AND INFUSIONS.</b>			
Making coffee into a cake to dissolve in and mix with water, without grinding or scraping.	984	6th March 1771	John Dring.
Apparatus for the preparation of coffee or tea -	4686	26th June 1822	Louis Bernard Rabaut.
Apparatus for separating infusion of tea or coffee from its grounds or dregs.	5158	30th April 1825	Daniel Dunn.
Preparing an extract from cocoa; "Marshall's extract of cocoa."	5876	10th Dec. 1829	John Marshall.
Apparatus for making extracts from coffee and other substances.	6362	11th Jan. 1833	Samuel Parker.
Improvements in decoction, &c. - - - -	6965	21st Jan. 1836	Robert Bowie.
Making decoctions of coffee and other matters -	8201	17th Aug. 1839	{ James Vardy. Moritz Platow.
Filtering liquids [ <i>vessel for making decoctions of coffee and other matters therein, and filtering the same when made</i> ].	9001	23rd June 1841	William Chesterman.
Vessels for making infusions or decoctions for culinary purposes.	9277	4th March 1842	William Palmer.
Preparation of tea, coffee, cocoa, and milk - -	9363	9th June 1842	Charles Searle.
Making decoctions of coffee and other matters -	9717	29th April 1843	Moses Poole.
Making infusions of tea, coffee, and other materials	10,476	16th Jan. 1845	Edward Loysel de la Lantais.
Apparatus for making and filtering infusions of coffee and other articles.	11,583	16th Feb. 1847	Francis Henry Waller.
Making and refining infusions and decoctions -	11,646	31st March 1847	George Robert Skene.
Obtaining infusions or extracts from coffee and other matters.	11,923	26th Oct. 1847	Charles Carey.
Apparatus for making infusions and decoctions of coffee.	11,988	8th Dec. 1847	William Dakin.
Apparatus for making infusions and decoctions of coffee.	12,198	3rd July 1848	Elizabeth Dakin.
Construction and arrangement of apparatus for obtaining decoctions and infusions from certain vegetable and animal matters; partly applicable to certain chemical processes.	12,642	7th June 1849	Thomas Masters.
Treating mangel-wurzel, and making drinks and other preparations therefrom [ <i>as a substitute for coffee, and a decoction as a substitute for tea</i> ].	13,582	2nd April 1851	Thomas Huckvale.
Improved methods of producing or obtaining printing dyes and other substances used in printing; which improvements, in whole or in part, are applicable to other like useful purposes [ <i>cold-water extract of meat for food</i> ].	13,723	21st Aug. 1851	James Robertson.
Production of extracts or infusions for various purposes - - - - -	14,327	19th Oct. 1852	{ Joseph Palin. Robert William Seivier.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CORK CUTTING AND PREPARING.</b>			
Engine or machine, consisting of divers parts, to be applied and used for cutting, sawing, splitting and dividing cork or other substances which may be required to be cut, sawn, split, or divided in length and breadth.	1153	26th April 1777	Thomas Crowley.
Machine and process for the purpose of preparing cork, both for ornament and use, in a much more cheap and expeditious manner than by any method hitherto practised, by means of which cork so prepared will be of superior quality.	2047	14th April 1795	Samuel Miller.
Machine for cutting corks and bungs - - -	3416	14th March 1811	Thomas Jones.
Machine for the manufacture of corks and bungs -	3967	9th Dec. 1815	David Redmund.
Machine for cutting corks - - - - -	4120	17th May 1817	Archibald Thomson.
Preparing cork bark for making corks - - -	4327	6th Jan. 1819	William Carter.
Machine for cutting corks - - - - -	4370	15th May 1819	Sarah Thomson.
Preparing, forming, uniting, and combining a certain substance for making hats, caps, bonnets, and other wearing-apparel [ <i>cork combined with other materials; also making cork cloth</i> ].	5347	18th April 1826	{ James Rowbotham. Robert Lloyd.
Machinery for cutting corks and bungs - - -	5939	3rd June 1830	John Holmes Bass.
Machinery for cutting or making corks and bungs -	6664	23rd Aug. 1834	Keith Norman Thomson.
Machinery for cutting corks and bungs - - -	7702	23rd June 1838	Nathaniel John Larkin.
Combination of known materials forming a substitute for corks and bungs.	7832	17th Oct. 1838	William Brockedon.
Cutting corks - - - - -	8395	22nd Feb. 1840	{ Job Cutler. Thomas Gregory Hancock.
Cutting or working cork for various purposes -	9048	21st Aug. 1841	{ John Harvig. Felix Moreau.
Machinery for cutting cork - - - - -	9066	4th Sept. 1841	{ Louis Lachenal. Antoine Vieyres.
Machinery for cutting cork - - - - -	9361	24th May 1842	William Geeves.
Corks and other stoppers; composition which may be used in preference to and as a substitute for cork; manufacturing the same into bungs, stoppers, and other articles.	10,185	15th May 1844	Charles Hancock.
Manufacturing corks and similar articles, of cork, wood, or other materials; application of the refuse matters to other purposes.	10,479	18th Jan. 1845	Felix Moreau.
Manufacturing corks - - - - -	10,888	17th Oct. 1845	Hippolyte Pierre Francois Desgranges.
Manufacturing corks and bungs - - - - -	11,226	28th May 1846	Charles Heard De Boissimon.
Manufacturing corks - - - - -	11,379	24th Sept. 1846	Pierre Armand le Comte de Fontainemoreau.
Preparation and application of cork for linings and for other useful purposes.	11,552	28th Jan. 1847	Thomas Webster Ram-mell.
Manufacture of various articles from cork - -	11,784	3rd July 1847	{ Theodore Clacys. Louis Francois Strand.
Machinery for cutting and shaping cork - -	14,038	24th March 1852	Richard Parriss.
Machinery for cutting corks - - - - -	14,149	1st June 1852	William Armand Gilbee.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTLERY.</b>			
<b>I.—Knives, Forks, and Razors.—Sword Cutlery.</b>			
Making sword-blades, falchions, skeans, and rapier-blades.	5	11th Jan. 1618	Thomas Murray.
Making sword-blades, falchions, skeans, rapier-blades, and blasts serving for rests for muskets, by the help of mills.	97	9th July 1636	Benjamin Stone.
Swords which serve for bayonets; pen-knife and pocket-knife; also breast-plates, fireproof and much lighter than ordinary.	434	12th Aug. 1721	Isaac de la Chaumette.
Making silver and other metallic hafts for knives, forks, and similar articles, by means of two steel or metallic dies.	970	16th Nov. 1770	Dru Drury.
Making table-fork blades, both scale and round tangs, with two, three, or more prongs; also spring knife-scales from cast iron, alone or mixed with steel or other metal, which, by a new system of tempering, renders them sufficiently strong and elastic.	1279	22nd Feb. 1781	James Reaves.
Making knives and forks out of solid silver or other metals.	1309	29th Dec. 1781	William Playfair.
Die for stamping and ornamenting the hafts or handles of knives and forks made of silver, silver plated, or other metal.	1468	16th July 1785	Robert Sutcliff.
Die for stamping and ornamenting hafts or handles of knives and forks made of silver, silver plated, or other metal.	1505	7th Nov. 1785	Robert Sutcliff.
Razor - - - - -	1716	8th Dec. 1789	John Horatio Savigny.
Making steel knives with iron backs, for cutting hay and straw.	1972	18th Dec. 1793	Abraham Hill.
Knife-plate, weight, and regulator, to be used with a machine for cutting straw and hay into chaff.	1973	8th Jan. 1794	James Cooke.
Making and manufacturing hay-knives from a preparation of cast steel and iron, united and incorporated together by fire.	2033	19th Jan. 1795	Arnold Wilde.
Making and manufacturing from iron and steel, or both united, steel doctors for printers - - }	2134	25th Aug. 1796	{ Arnold Wilde. Joseph Ridge.
Process of impressing japan on ornamented handles or scales of knives, forks, razors, and other cutlery-ware, such handles being made of wood, paper, and in imitation of handles made of tip or horn.	2456	13th Dec. 1800	Joseph Eyre.
Razors - - - - -	2780	4th Aug. 1804	Edward Greaves.
Making or casting razors - - - - -	2789	20th Oct. 1804	Samuel Bennett.
Manufacturing blanks or moulds for knife and razor blades and for other edge tools; also for forks.	2829	9th March 1805	William Bell.
Making iron and steel backs for fixing upon and using with the blades of scythes and straw and hay knives.	3070	26th Aug. 1807	Samuel Hill.
Construction of hafts or handles for razors - - -	3276	21st Nov. 1809	Robert Wass.
Working and making forks and such other articles of silver, gold, or other metals as are usually stamped by dies of any description; instruments for the purpose.	3361	18th July 1810	George Hall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTLERY—continued.</b>			
Manufacturing forks and other articles of silver, iron, or other metal, by the application of certain machinery hitherto unused for the purpose; improvements in such machinery.	4847	4th March 1819	Samuel Haycraft.
Manufacturing hafts, handles or hilts, for knives, forks, or other instruments - - - }	4444	11th April 1820	{ William Hall. William Rostill.
Securing the blades of knives and forks in the handles, by caps of iron, steel or other materials, soldered on the tangs after the handles are upon them.	4474	8th June 1820	Jonathan Brownill.
Manufacturing table-knives, dessert-knives, fruit-knives, pocket-knives, and razors [ <i>steel edges on gold and silver blades</i> ].	4492	20th July 1820	Henry Botfield Thomason.
Construction of straw-knives or other implements requiring a metallic back.	4814	15th July 1823	Bennington Gill.
Apparatus for shaving; "useful and elegant facilitator" [ <i>razor and strop</i> ].	4934	8th April 1824	Thomas Ryalls.
Carving-knives and other edged tools - - -	4950	22nd June 1824	John Benton Higgon.
Manufacturing cutlery and other articles of hardware by means of rollers.	5470	20th Feb. 1827	William Smith.
Manufacturing scythe-backs, chaff-knife backs, and hay-knife backs.	5642	26th April 1828	James Griffin.
Table-forks [ <i>having two file edges attached for sharpening knives</i> ] - - - }	5748	23rd Dec. 1828	{ George Rodgers. Jonathan Cripps Hobson. Jonathan Brownill.
Making handles of knives from horns and hoofs of animals - - - }	5753	14th Jan. 1829	{ James Deakin. Thomas Deakin.
Manufacture of forks - - -	8053	30th April 1839	Julian Skrine.
Compositions to resemble ivory, bone, horn, mother-of-pearl, and other substances;—applicable to the manufacture of handles of knives, forks, razors, and various other articles - - - }	8131	26th June 1839	{ James Bingham. John Amory Boden.
Table-knife - - -	8264	7th Nov. 1839	John Jones.
Compositions to resemble ivory, bone, horn, mother-of-pearl, and other substances;—applicable to the manufacture of handles of knives, forks, razors, and various other articles - - - }	8301	25th Jan. 1840	{ James Bingham. John Amory Boden.
Fastening certain kinds of horn and hoof handles to the instruments requiring the same [ <i>knives and forks</i> ].	8533	3rd June 1840	James Roberts.
Manufacture of knives and forks - - -	8540	11th June 1840	Francis Greaves.
Compositions to resemble ivory, bone, horn, mother-of-pearl, and other substances;—applicable to the manufacture of handles of knives, forks, razors, and various other articles.	8618	3rd Sept. 1840	James Bingham.
Certain combinations of vitrified and metallic substances, applicable to the manufacture of ornaments and the decoration and improvement of articles of domestic utility and of household furniture;—also applicable to church windows and ship-lights [ <i>attaching knife and fork handles</i> ].	8773	11th Jan. 1841	William Lacey.
Manufacture of parts of knives and other cutting instruments.	9050	18th Nov. 1843	Moses Poole.
Manufacture of handles for knives and other instruments.	10,945	17th Nov. 1845	James Boydell, junior.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTLERY—continued.</b>			
Improvements applicable to extending and compressing articles of cutlery, and for other purposes.	11,031	12th Jan. 1846	Charles Chinnock.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use and similar purposes [ <i>combining fork and spoon or ladle in one article</i> ].	11,149	25th March 1846	Charles Smith.
Manufacture of forks and other similar wares; machinery employed therein.	11,353	26th Aug. 1846	Alfred Krupp.
Manufacture of knives - - - - -	11,517	7th Jan. 1847	Samuel Burrows.
Construction of razors for shaving - - - - -	11,797	11th July 1847	William Samuel Henson.
Knives and forks - - - - -	12,574	17th April 1849	Thomas Nicholas Greening.
Apparatus for opening oysters - - - - -	12,651	7th June 1849	Gustave François Picault.
Preparation of materials for the production of a composition applicable to the making knife and razor handles and other articles.	13,021	23rd March 1850	Alfred Vincent Newton.
Preparation of materials for the production of a composition for manufacturing knife and razor handles and other articles.	13,543	4th March 1851	Alfred Vincent Newton.
Knives and forks - - - - -	13,724	21st Aug. 1851	John Walters.
Manufacture of swords and other cutting instruments.	13,991	27th Feb. 1852	Charles Reeves, junior.
<b>II.—Scissors and Shears.</b>			
Pocket scissors - - - - -	434	12th Aug. 1721	Isaac de la Chaumette.
Stamping, impressing, or rolling scissors out of a bar, sheet, plate, or string of steel, by means of stamps, fly or screw presses, or by rolling with cylinders.	1507	8th Nov. 1785	Benjamin Blonk.
Shears for shearing sheep - - - - -	3213	1st March 1809	{ Thomas Clatworthy. John Clatworthy.
Making sheep or wool shears, glovers'-shears, and horse-shears.	3513	19th Dec. 1811	John Sorby, junior.
Shears for pruning trees, gathering grapes and other fruit, and cutting off injured limbs of trees; " <i>Averruncator</i> ."	3615	7th Nov. 1812	Edward Jukes.
Making horse-shears, wool-shears, and glovers'-shears.	3634	5th Jan. 1813	William Wilkinson.
Manufacturing scissors - - - - -	4492	20th July 1820	Henry Botfield Thomason.
Shears used for cutting or cropping woollen cloth and other fabrics.	5674	21st Nov. 1829	William Clutterbuck.
Shears and other apparatus for cutting, cropping, and shearing certain substances.	9110	7th Oct. 1841	Thomas Wells Ingram.
Scissors - - - - -	13,941	12th Nov. 1850	Charles Marsden.
Manufacture of scissors - - - - -	13,772	10th Oct. 1851	Hubert Sommelet.
Scissors and other like cutting instruments - - -	13,827	22nd Nov. 1851	Frederick Weiss.
<b>III.—Handles, Cases, Sheaths, and Scabbards.</b>			
Making cases or sheaths for knives and scissors -	3603	23rd Oct. 1812	Francis Deakin.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTLERY—continued.</b>			
Engine or machine for making the following articles from one piece of leather, without any seam or sewing whatever, that is to say, all kinds of scabbards and sheaths for swords, bayonets, and knives.	4923	20th March 1824	Jean Henry Petitpierre.
Manufacturing cases for knives, scissors, and other articles [ <i>scabbards</i> ].	4939	14th April 1824	John Gunby.
Forming a fabric applicable to various uses, by combining caoutchouc or certain compounds thereof, with wood, whalebone, or other fibrous materials manufactured for that purpose, or with metallic substances manufactured or prepared [ <i>suitable for scabbards</i> ].	8352	8th Feb. 1840	James Hancock.
Helmets and other military accoutrements [ <i>bayonet sheaths and sword scabbards</i> ].	14,029	22nd March 1852	John Drumgoole Brady.
[For sharpening Cutlery, see "GRINDING, SETTING, AND POLISHING."]			
[For Surgical Instruments, see "MEDICINE AND SURGERY;—INSTRUMENTS AND APPARATUS."]			
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<b>CUTTING, SAWING, AND SHAPING.</b>			
<b>I.—Saw-mills and Saws.</b>			
Saw-mills or engines for clearing timber from off the ground.	255	23rd Aug. 1687	Duke of Albemarle.
Mill moved with jack-work and wheels, to move saws by manual labour, without the help of wind or water	326	9th Oct. 1693	{ Matthew Elliston. Thomas Winter.
Sawing-machines; and working the same	1452	30th Sept. 1784	Robert Cameron.
Making and manufacturing saws from iron and steel, or both united	2134	25th Aug. 1796	{ Arnold Wilde. Joseph Ridge.
Sawing-mills, or machines for sawing all kinds of timber.	2843	2nd May 1805	John Slater.
Saws and machinery for sawing timber	2844	7th May 1805	Marc Isambard Brunel.
Circular saws for sawing wood	3116	14th March 1808	Marc Isambard Brunel.
Sawing-machine	3482	9th Sept. 1811	John Barton.
Saw-mills	3529	28th Jan. 1812	Marc Isambard Brunel.
Saw-mills	3643	26th Jan. 1813	Marc Isambard Brunel.
Construction of saws	4814	15th July 1823	Benjamin Gill.
Saw-mills	7717	2nd July 1838	George Carter.
Sawing machinery	10,712	7th June 1845	Samuel Harvey.
Construction and arrangement of machinery for cutting, stamping, and pressing.	11,540	21st Jan. 1847	Thomas Deakin.
Saws	13,702	31st July 1851	Charles Barlow.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTTING, SAWING, &amp;c.—continued.</b>			
Sawing machinery - - - - -	18,790	23rd Oct. 1851	Allen Searell.
Machine for cutting and sawing - - - - -	14,211	6th July 1852	Frederick Sang.
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<b>II.—Wood.</b>			
Engine for cutting timber into plank, board, and other squares.	45	2nd Jan. 1629	Hugh Bullock.
Engine for sawing timber and boards without the aid of wind or water.	230	27th Nov. 1683	John Booth.
Cutting and sawing all sorts of boards and timber -	369	1st Jan. 1703	George Sorocold.
Tools for shaving, cutting, and preparing wood for making Leghorn hats and bonnets.	922	21st March 1769	Peter Debaufre.
Engine for planing boards, and fluting wood for columns.	1125	21st May 1776	Leonard Hatton.
Machine for sawing wood - - - - -	1152	11th April 1777	Samuel Miller.
Machine for cutting, sawing, splitting, or dividing wood or other substances.	1153	26th April 1777	Thomas Crowley.
Planing wood - - - - -	1838	26th Nov. 1791	Samuel Benthain.
Machine for producing straight, smooth, and parallel surfaces in wood.	2652	30th Oct. 1802	Joseph Bramah.
Application of machinery for striking mouldings, rabbeting, grooving, fluting, and excavating wood.	2742	19th Nov. 1803	James Bevans.
Machinery for sawing timber - - - - -	2844	7th March 1805	Marc Isambard Brunel.
Machinery for sawing wood - - - - -	3105	30th Jan. 1808	William Newberry.
Machinery for sawing, cutting, and planing wood -	3459	27th June 1811	Charles Hamond.
Machinery for cutting out irregular forms in wood or any other substance, by tools with continuous or reciprocating circular motion.	4652	2nd March 1822	John William Buckle.
Sawing and cutting wood and timber by machinery - - - - -	5074	11th Jan. 1825	{ George Sayner. John Greenwood.
Machinery for splitting, rending asunder, cutting, or cleaving wood, and forming and securing the same in bundles [ <i>binding and cutting firewood</i> ].	5169	14th May 1825	Henry Oswald Weatherley.
Machinery for cutting wood into mouldings, rebates, cornices, or any sort of fluted work.	5480	3rd Feb. 1827	Antoine Adolphe Marcelin Marbot.
Machinery for cutting wood and other substances -	5571	12th Nov. 1829	Joseph Gibbs.
Cutting and planing wood by means of machinery -	6228	23rd Feb. 1832	Alexander Beattie Shankland.
Machinery for cutting out wood for carriage wheels, and for cutting and shaping the wheels - - - - -	6310	22nd Sept. 1832	{ Joseph Gibbs. Augustus Applegath.
Machinery for sawing wood;—applicable to various purposes.	6531	20th Dec. 1833	James Hamilton.
Machine for cutting or fashioning wood into certain defined shapes or forms, for various purposes.	6604	6th May 1834	Alexander Beattie Shankland.
Machinery for cutting wood and other materials -	6752	27th Jan. 1835	{ Joseph Gibbs. Joseph Gatley.
Machinery for cutting and shaping wood and other materials.	6755	29th Jan. 1835	Isaac Dodd.
Cutting wood by certain improved instruments -	6822	28th April 1835	{ James Stevenson. John Ruthven.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTTING, SAWING, &amp;c.—continued.</b>			
Sawing wood and other materials - - - -	7078	3rd May 1836	Henry Sharpe.
Machinery for sawing timber; applying power to the same.	7133	24th June 1836	John M'Dowall.
Cutting wood by machinery - - - -	7322	15th March 1837	Charles François Edouard Aulas.
Cutting wood by machinery - - - -	7465	7th Nov. 1837	Charles François Edouard Aulas.
Sawing, planing, tonguing, grooving, and otherwise preparing window-sashes, door and other frames, cornices, mouldings, and various other fittings or ornamental wood-work; machinery, tools and apparatus to be used in the same.	7569	16th Feb. 1838	John Jackson.
Machinery for sawing, planing, grooving, and otherwise preparing wood.	7926	8th Jan. 1839	William Hickling Burnett.
Machinery for cutting or forming ornamental mouldings or devices in wood and other materials.	8220	19th Sept. 1839	Job Taylor.
Machinery for cutting splints for matches - -	8297	4th Dec. 1839	James Mayer.
Machinery for cutting blocks for paving - -	8529	2nd June 1840	James Harvey.
Machinery for cutting or working wood - -	8551	24th June 1840	William Hickling Burnett.
Combining and applying machinery for cutting and planing wood, to produce plain or moulded surfaces.	8586	3rd Aug. 1840	James Hodgson.
Cutting or sawing wood - - - -	8592	5th Aug. 1840	Theophilus Richards.
Producing an uneven surface on wood and other substances.	8724	25th Nov. 1840	Henry Walker Wood.
Machinery for cutting wood; and apparatus connected therewith;—partly applicable to other purposes.	9083	9th Sept. 1841	William Hickling Burnett.
Cutting wood for paving - - - -	9163	25th Nov. 1841	Richard Gurney.
Machinery for cutting and shaping wood into splints for manufacturing matches and other similar forms.	9295	14th March 1842	Reuben Partridge.
Cutting and shaping wood; and machinery for the purpose.	9644	23rd Feb. 1843	Francis Roubiliac Conder
Machinery for cutting or splitting wood for fuel } and other purposes - - - - }	9661	16th March 1843	{ Charles Chilton. Frederick Braithwaite.
Machinery for sawing wood - - - -	9756	3rd June 1843	Junius Smith.
Machinery and apparatus for cutting and carving substances to be applied for inlaying and other purposes.	9962	25th Nov. 1843	William Irving.
Machinery for cutting wood and other materials -	10,016	16th Jan. 1844	Benjamin Cheverton.
Machinery or apparatus for planing, sawing, and cutting wood and other substances.	10,044	8th Feb. 1844	Edwin Sheppard.
Construction of apparatus for cutting ornamental forms, beads, recesses and mouldings, in wood and other materials.	10,517	10th Feb. 1845	William Irving.
Machinery for cutting and carving - - - -	10,523	17th Feb. 1845	Thomas Brown Jordan.
Machinery for cutting and shaping wood and other materials into various forms or figures; also cleaning and smoothing the surfaces of the same forms or figures.	10,610	15th April 1845	Frederick Rosenborg.
Improvements partly applicable to sawing wood -	10,631	22nd April 1845	Charles Mather Barker.
Sawing machinery - - - -	10,712	7th June 1845	Samuel Harvey.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTTING, SAWING, &amp;c.—continued.</b>			
Cutting or carving wood and other substances -	10,756	8th July 1845	George Myers.
Machinery for cutting and carving wood and other like substances.	10,850	3rd Oct. 1845	Grasiano Conté.
Machinery employed for sawing timber - - -	10,891	23rd Oct. 1845	Thomas Taylor.
Wood-cutting machines [ <i>for cutting splints for matches</i> ].	11,104	25th Feb. 1846	Antonio James Mayer.
Machinery for cutting and shaping wood for ship-building and other purposes.	11,235	2nd June 1846	John Webster Cochran.
Machinery for sawing wood and other substances -	11,672	27th April 1847	George Thomson.
Machinery for planing and sawing wood;—partly applicable to machinery for cutting certain other substances.	11,692	6th May 1847	Herbert Spencer.
Machinery for cutting wood for the manufacture of bobbins.	11,736	8th June 1847	Charles Larrad.
Machinery for cutting wood for the manufacture of casks and other wooden vessels, and for other purposes.	11,761	19th June 1847	James Robertson.
Apparatus for cutting or carving ornamental forms in wood and other materials.	12,073	23rd Feb. 1848	William Irving.
Machinery for sawing wood - - - - -	12,171	1st June 1848	Thomas Hunt Barber.
Machinery for cutting wood for the manufacture of casks and other wooden vessels.	12,225	29th July 1848	James Robertson.
Sawing and cutting wood - - - - -	12,403	4th Jan. 1849	Henry Francis.
Cutting wood - - - - -	12,425	18th Jan. 1849	James Hamilton.
Machinery for cutting and tying up firewood -	12,542	28th March 1849	{ George Thomson. James Elms.
Machinery for sawing wood - - - - -	12,704	12th July 1849	{ George Cottam. Edward Cottam.
Machinery for cutting, tenoning, planing, moulding, dovetailing, boring, mortising, tongueing, grooving, and sawing wood.	12,735	9th Aug. 1849	William Furness.
Machinery for planing, tongueing, and grooving boards or planks.	12,794	5th Oct. 1849	William Edward Newton.
Sawing or cutting wood - - - - -	12,837	10th Nov. 1849	Charles Matthew Barker.
Sawing, cutting, and shaping wood - - - -	13,000	7th March 1850	{ Frederick Rosenborg. Conrad Montgomery.
Machinery or apparatus for cutting, shaping, or reducing wood or other substances.	13,030	5th April 1850	Joseph Findlay.
Sawing, and sawing machinery - - - - -	13,145	20th June 1850	William Saunders.
Machinery for sawing, cutting, and shaping wood -	13,264	28th Sept. 1850	James Hamilton.
Machinery for cutting wood for drain-pipes - -	13,285	17th Oct. 1850	John Fowler.
Cutting and shaping wood and other materials -	13,350	16th Nov. 1850	Thomas Coats.
Machinery for cutting and splitting wood or other substances.	13,668	19th Dec. 1851	James Frederick Lackasteen.
Cutting, shaping, and dressing wood; machinery for the purpose.	13,890	8th Jan. 1852	Charles Dixon Archibald.
Cutting wood and other substances; machinery or apparatus employed therein [ <i>sawing</i> ].	14,026	20th March 1852	John MacDowall.
Machinery for shaping wood into mouldings and other forms.	14,101	29th April 1852	John Robinson.
Cutting and shaping - - - - -	14,181	24th June 1852	George Pearson Renshaw.
Cutting mouldings, grooves, tongues, and other forms, and planing wood.	14,200	6th July 1852	Edward Maitland Staply.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTTING, SAWING, &amp;c.—continued.</b>			
(Veneers.)			
Engine for cutting timber into thin pieces or scales, for making bandboxes, scabbards for swords, and the like - - - - -	87	31st Oct. 1635	{ Sara Jerom. William Webb.
Engine for cutting timber into thin pieces or scales, for making bandboxes, scabbards for swords, and the like.	120	20th Oct. 1638	Sara Jerom.
Cutting veneers or thin boards - - - - -	2968	23rd Sept. 1806	Marc Isambard Brunel.
Machine for cutting veneers - - - - -	4324	24th Dec. 1818	Henry Faverycar.
Machinery for cutting timber into veneers or other useful forms.	6013	20th Oct. 1830	Alexander Craig.
Machinery for cutting wood for veneers - - - - -	6969	29th Dec. 1835	Joseph Skinner.
Sawing and cutting veneers - - - - -	9503	2nd Nov. 1842	Matthew Gregson.
Machine for cutting leaves of wood, such as scale-board - - - - -	9929	9th Nov. 1843	{ Benjamin Parsons. Edward Esdaile.
Machinery for cutting wood; laying and uniting veneers.	11,716	25th May 1847	Pierre Armand le Comte de Fontainemoreau.
<b>III.—Cork.</b>			
Engine or machine, consisting of divers parts, to be applied and used for cutting, sawing, splitting, and dividing cork or other substances which may be required to be cut, sawn, split or divided in length and breadth.	1153	26th April 1777	Thomas Crowley.
Machine for cutting corks and bungs - - - - -	3416	14th March 1811	Thomas Jones.
Machine for cutting corks - - - - -	4120	17th May 1817	Archibald Thomson.
Machine for cutting corks - - - - -	4370	15th May 1819	Sarah Thomson.
Machinery for cutting corks and bungs - - - - -	5939	3rd June 1830	John Holmes Bass.
Machinery for cutting or making corks and bungs -	6664	23rd Aug. 1834	Keith Norman Thomson.
Machinery for cutting corks and bungs - - - - -	7702	23rd June 1838	Nathaniel John Larkin.
Cutting cork - - - - -	8395	22nd Feb. 1840	{ Job Cutler. Thomas Gregory Hancock.
Cutting or working cork for various purposes -	9048	21st Aug. 1841	{ John Harvig. Felix Moreau.
Machinery for cutting cork - - - - -	9066	4th Sept. 1841	{ Louis Lachenal. Antoine Vieyres.
Machinery for cutting cork - - - - -	9361	24th May 1842	William Geeves.
Machinery for cutting and shaping cork - - -	14,038	24th March 1852	Richard Parriess.
Machinery for cutting cork - - - - -	14,149	1st June 1852	William Armand Gilbec.
<b>IV.—Metals.</b>			
Engine worked by water, for cutting iron into small bars or rods, for making nails.	10	11th Dec. 1618	Clement Dawbeney.
Engine for cutting sheet-lead - - - - -	579	9th Sept. 1741	James Creed.
Cutting or dividing pieces of metal and giving them a cylindrical or other uniform shape through their whole length, or making them taper regularly, for the formation of bars, bolts, rods, wire, spade and shovel bits.	1408	17th Dec. 1783	William Playfair.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTTING, SAWING, &amp;c.—continued.</b>			
Machine for cutting trunnels and spiles - - -	8523	23rd Jan. 1812	John Beale.
Cutting, working, and planing minerals and metals, by machinery.	8228	23rd Feb. 1832	Alexander Beattie Shankland.
Machinery for planing and cutting metals and other materials.	6850	11th June 1835	Joseph Whitworth.
Machinery applicable to shaping metal - - -	7291	28th Jan. 1837	Miles Berry.
Machinery, tools or apparatus, for cutting, planing, and turning metals and other substances.	7331	28th March 1837	Joseph Haley.
Machinery for planing and cutting metals and other materials.	7332	28th March 1837	Joseph Whitworth.
Machinery, tools or apparatus, for planing and cutting metals and other materials.	7441	5th Oct. 1837	Joseph Whitworth.
Machinery for cutting metal, and for holding it to be cut.	7556	30th Jan. 1838	Charles Phillips.
Machine for cutting or planing metals and other substances; securing the cotters used in such machinery and other machinery where keys or cotters are applied.	7815	20th Sept. 1838	James Nasmyth.
Machinery, tools or apparatus, for cutting and planing metals and other substances.	7891	22nd Nov. 1838	John George Bodmer.
Machinery for planing or cutting metals - - -	7913	18th Dec. 1838	John Roberts.
Machinery, tools or apparatus, for cutting and planing metal and other substances.	8070	20th May 1839	John George Bodmer.
Machinery for planing and cutting metals or other substances.	8188	7th Aug. 1839	Joseph Whitworth.
Machinery or apparatus for cutting and shaping } metal and other substances - - - }	8705	17th Nov. 1840	{ Joseph Whitworth. John Spear.
Machinery for planing or cutting metals or other substances.	8720	25th Nov. 1840	Nathaniel Baths.
Construction of screwing-stocks, taps, and dies, and certain other tools or apparatus or machinery, for cutting and working in metals.	8912	3rd April 1841	John George Bodmer.
Apparatus for cutting and shaping metals and other substances.	9124	21st Oct. 1841	Henry Davies.
Machinery for cutting metals - - - -	9238	27th Jan. 1842	{ William Galloway. John Galloway. Joseph Haley.
Composition for cutting metals and other hard substances.	9337	30th April 1842	Henry Barclay.
Machinery for cutting iron and other substances -	9862	9th June 1842	James Nasmyth.
Machines for cutting or shearing iron or other metals;—applicable to other like purposes.	9995	28th Dec. 1843	Thomas Murray Gladstone.
Machinery for cutting metals and other substances -	10,369	29th Oct. 1844	Thomas Fuller.
Cutting plate and sheet iron - - - -	11,047	20th Jan. 1846	William Vincent Wenington.
Machinery for shearing metal plates - - -	11,168	15th April 1846	Charles May.
Machinery for shearing and cutting metals - -	11,381	24th Sept. 1846	Charles Fox.
Machinery and arrangements thereof for cutting metals.	11,767	26th June 1847	Robert Wilson.
Machinery for cutting iron and other substances -	12,074	23rd Feb. 1848	{ James Nasmyth. Hobbrook Gaskell.
Apparatus for cutting metal washers and other articles.	12,327	16th Nov. 1848	Alexander Balfour.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTTING, SAWING, &amp;c.—continued.</b>			
Machinery for planing and cutting metal and other materials - - - - -	12,551	28th March 1849	{ James Fletcher. Thomas Fuller.
Sawing or cutting metals - - - - -	12,837	10th Nov. 1849	Charles Matthew Barker.
Machinery for cutting metals - - - - -	12,907	19th Dec. 1849	Joseph Whitworth.
Machinery for shearing and shaping metals - - -	12,928	12th Jan. 1850	John Glasgow.
Machinery for cutting metals - - - - -	13,672	24th June 1851	John Holmes.
Shearing metals - - - - -	13,792	30th Oct. 1851	Michael Scott.
Cutting and shaping metal and other materials -	13,853	10th Dec. 1851	John Frearson.
Cutting, shaping, and dressing metals; machinery used therein.	13,890	8th Jan. 1852	Charles Dixon Archibald.
Machinery for cutting and bending metals and other hard substances.	14,315	7th Oct. 1852	Solomon Andrews.
<b>V.—Stone and Slate.</b>			
Engine for sawing marble - - - - -	152	19th Feb. 1667	Richard Calthrop.
Engine for sawing stone without the aid of wind or water.	230	27th Nov. 1683	John Booth.
Cutting and sawing stone by the strength of horses or water.	369	1st Jan. 1703	George Sorocold.
Machine for cutting or sawing marble and stone -	664	11th Oct. 1751	Henry Watson.
Machine for sawing stone - - - - -	1152	11th April 1777	Samuel Miller.
Chain and apparatus for straight, square, and parallel stone and marble sawing;—applicable to other useful purposes.	2908	12th Feb. 1806	John Phillips.
Machinery to be employed for sawing marble and other stone, or in producing grooves or mouldings thereon.	4936	12th April 1824	James Tulloch.
Machinery for cutting marble and other substances -	5871	12th Nov. 1829	Joseph Gibbs.
Machinery for cutting marble and other stones, and forming mouldings in grooves thereon.	6411	15th April 1833	George Washington Wildes.
Engines or machinery for cutting or preparing slates or other similar substances, for various purposes.	6636	3rd July 1834	Thomas Martin.
Cutting, or what is commonly called facing and dressing, certain kinds of stone.	6794	18th May 1835	James Hunter.
Machinery for cutting and shaping marble, stone, alabaster, and other substances suitable for sculpture.	7363	6th May 1837	Angus Robertson.
Tools and apparatus for chipping and levelling the surface of slate, stone, and other materials.	7664	12th June 1838	Richard March Hoe.
Cutting and preparing stones, marble, and other substances - - - - -	9150	16th Dec. 1841	{ William Neilson. David Lyon. Peter M'Onie.
Composition for cutting stone and other hard substances.	9337	30th April 1842	Henry Barclay.
Mode of cutting that kind of slates called roofing-slates.	9606	26th Jan. 1843	George Parker Bidder.
Machine for cutting marble and other stone - -	9839	13th July 1843	William Hutchison.
Machine for cutting marble and other stone - -	9858	1st Aug. 1843	Charlton James Wollaston.
Cutting slate for roofing and other purposes - -	10,333	27th Sept. 1844	James Carter.
Machinery or apparatus for hewing stone or other materials.	10,413	2nd Dec. 1844	James Nasmyth.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTTING, SAWING, &amp;c.—continued.</b>			
Construction of apparatus for cutting ornamental forms in stone.	10,517	10th Feb. 1845	William Irving.
Machinery for stamping metals;—applicable to other purposes [cutting, dressing, and chipping stone].	10,590	7th April 1845	Alfred Vincent Newton.
Cutting or carving stone and other materials - -	10,756	8th July 1845	George Myers.
Machinery for cutting and carving marble and stone and other like substances.	10,850	3rd Oct. 1845	Graziano Conté.
Obtaining and applying motive-power [stone-cutting machines] - - - - -	11,077	11th Feb. 1846	{ Thomas Clarke. Mark Freeman. John Varley.
Apparatus for cutting or carving ornamental forms in stone and other materials.	12,073	23rd Feb. 1848	William Irving.
Apparatus for cutting slates into various shapes and sizes.	13,019	23rd March 1850	Nathaniel Mathew.
Cutting stone - - - - -	13,407	12th Dec. 1850	Alfred Vincent Newton.
Machinery for cutting and shaping stone and other materials for building and architectural decorations.	13,627	10th May 1851	Charles Morey.
Machinery or apparatus for cutting and otherwise working slate, and for framing and setting the same.	13,728	28th Aug. 1851	Thomas Brown Jordan.
Cutting and shaping stone; machinery and apparatus employed therein.	13,890	8th Jan. 1852	Charles Dixon Archibald.
Machinery and apparatus used in cutting and otherwise working and treating slate and stone - }	14,165	12th June 1852	{ Edwin John Jeffery Dixon. Arthur John Dodson.
Machine for cutting and sawing [stone, &c.] - -	14,211	6th July 1852	Frederick Sang.
Cutting shistus for slates - - - - -	14,269	19th Aug. 1852	Pierre Armand le Comte de Fontainemoreau.
<b>VI.—Glass, Ivory, and Bone.</b>			
Machine for sawing ivory - - - - -	1152	11th April 1777	Samuel Miller.
Machine for cutting, sawing, splitting, or dividing bone, horn, and ivory, or other substances.	1153	26th April 1777	Thomas Crowley.
Apparatus for cutting window-glass, also plate and sheet glass.	3846	3rd Oct. 1814	Abraham Shaw.
Glazier's diamond - - - - -	3906	15th April 1815	Joshua Shaw.
Cutting and fixing articles of glass - - - - -	13,229	22nd Aug. 1850	{ Frederick Hale Thomson. Thomas Robert Mellish.
<b>VII.—Cutting and splitting Leather.</b>			
Engine for cutting the wool from beaver, coney, and hare skins, for making hats.	436	9th Sept. 1721	John Watlington.
Machine for splitting, cutting, paring, or dividing in length and breadth, hides, skins, and leather.	1153	26th April 1777	Thomas Crowley.
Engine to cut, split, and divide asunder the flesh side from the grain side of hides, skins, and leather - - - - -	1380	26th July 1783	{ Thomas Crowley. Thomas Merry.
Machine for cutting, splitting, and dividing hides and skins, or leather.	1382	7th Aug. 1783	George Choumert.
Machinery for cutting, stripping, or plucking furs of beavers and seals; also wool, hair, &c., from skins now cut and stripped by hand.	2804	19th Dec. 1804	Richard Willcox.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTTING, SAWING, &amp;c.—continued.</b>			
Machinery for cutting furs from skins of animals -	3222	3rd April 1809	Richard Willcox.
Shaving leather - - - - -	3347	19th June 1810	Joseph Warren Revere.
Machine for cutting or removing all the various kinds of furs used in hat-making, from the skins or pelts, and for cutting the said skins or pelts into strips or small pieces.	3375	7th Sept. 1810	Joseph Cheseborough Dyer.
Machine for cutting the fur from all peltries - -	3412	12th March 1811	James Mallory.
Machine for cutting fur from peltry - - -	3550	24th March 1812	William Henry Hart.
Machine for cutting furs from skins, also for shaving pelts.	4825	31st July 1823	John Bainbridge.
Machine for shaving and preparing leather - -	5309	9th Dec. 1825	Joseph Cheseborough Dyer.
Machine for cutting fur from skins, for the use of hatters ("Cant twist blades fur-cutter").	5669	3rd July 1828	John Baring.
Machine for cutting off the hair or fur from beaver and other skins.	6244	15th March 1832	John Walmesley.
Fur-cutting machine - - - - -	6538	13th Jan. 1834	Frederick Plant.
Cutting leather, hides, and similar substances, to render them applicable to various purposes.	7004	16th Feb. 1836	Joshua Proctor Westhead.
Machinery for cutting or shaping leather - -	9529	3rd Dec. 1842	Thomas Mansell.
Machinery for splitting and cutting skins and hides	10,444	2nd Dec. 1844	René Joseph le Comte du Columbiér.
Forming leather into various articles [cutting and splitting] - - - - -	11,413	15th Oct. 1846	{ François Durand. Onésiphore Pecqueur.
<b>VIII.—Cutting India-rubber.</b>			
Cutting caoutchouc - - - - -	6696	9th Feb. 1836	{ Alexander Mastie. Robert Morton. William Ranwell. Ebenezer Ranwell.
Cutting caoutchouc and india-rubber, and similar substances, to render them applicable to various purposes.	7004	16th Feb. 1836	Joshua Proctor Westhead.
Cutting india-rubber - - - - -	8171	1st Aug. 1839	Christopher Nickels.
Improvements applicable to cutting india-rubber sheets by a circular knife acting against a cylinder - - - - -	10,047	25th Nov. 1844	{ William Alsop. Thomas Forster.
Machinery for cutting india-rubber and other elastic substances into balls and other solid fabrics.	10,110	19th March 1844	William Henry Burke.
Machinery for cutting india-rubber - - -	11,850	2nd Sept. 1847	Thomas Forster.
<b>IX.—Paper.</b>			
Machine for cutting paper - - - - -	2950	24th July 1806	Henry Fourdrinier.
Machine for cutting and placing paper - - -	3056	30th June 1807	John Dickinson.
Machinery for cutting and placing paper - -	3191	19th Jan. 1809	John Dickinson.
Machine for cutting boards out of pasteboard or paper, and for cutting various other articles.	3352	19th June 1810	William Bell.
Machinery for cutting and placing paper - -	3452	21st May 1811	John Dickinson.
Machine for cutting the edges of paper and books -	3696	20th May 1813	Edward Cowper.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTTING, SAWING, &amp;c.—continued.</b>			
Machinery for cutting paper - - - - -	4152	5th Aug. 1817	John Dickinson.
Machinery for cutting paper; "patent paper-plough."	4180	28th Nov. 1817	Francis Baisler.
Cutting pasteboard and paper cards, by machinery -	4959	20th May 1824	John Dickinson.
Cutting paper - - - - -	5631	26th March 1828	Edward Cowper.
Cutting paper - - - - -	5655	13th May 1828	{ Thomas BonsorCrompton Enoch Taylor.
Cutting paper and other material into single sheets or pieces, by machinery.	5754	14th Jan. 1829	John Dickinson.
Cutting paper - - - - -	6025	1st Nov. 1830	Lewis Aubrey.
Machine for cutting paper - - - - -	6125	20th June 1831	Edward Newman Fourdrinier.
Cutting paper - - - - -	6245	15th March 1832	Matthew Towgood.
Machinery in part applicable to the cutting of paper - - - - -	7515	19th Dec. 1837	{ Christopher Nickels. Henry George Collins.
Paper-cutting machine - - - - -	8353	21st Jan. 1840	George Wilson.
Cutting the edges of books and paper, and for other purposes.	9059	4th Sept. 1841	Richard Whitaker.
Machinery for cutting or shaping paper - - -	9529	3rd Dec. 1842	Thomas Mansell.
Apparatus for cutting books and other folded paper	10,103	14th March 1844	Frederick Stephenson.
Cutting paper for the manufacture of envelopes, and for other purposes.	10,230	19th June 1844	George Wilson.
Machinery for cutting paper and other fabrics -	10,628	22nd April 1845	John Thomas Perkins.
Facilitating the division of sheets or pieces of paper, parchment, or other similar substances.	12,340	23rd Nov. 1848	Henry Archer.
Machinery for cutting paper - - - - -	13,032	5th April 1850	Jonathan Charles Goodall.
Cutting apparatus - - - - -	13,453	16th Jan. 1851	Gustav Adolph Buchholz.
Machinery for cutting paper, pasteboard, or other similar substances.	14,067	17th April 1852	William Edward Newton.
<b>X.—Cutting out Wearing-apparel.</b>			
Cutting and making breeches in leather, velvet, silk, worsted, and other materials.	1358	27th Feb. 1783	Thomas Lingham.
Machine for cutting out breeches, gloves, and mits, and embellishing the same with ornaments in gold, silver, and colours.	1526	31st Jan. 1786	John Bull.
Machine for cutting out wearing-apparel - - -	3730	9th Aug. 1813	George Scott.
Machinery for cutting or shaping linen lastings, silks, and other fabrics.	6529	3rd Dec. 1842	Thomas Mansell.
Apparatus for facilitating the cutting or shaping of materials for making gloves and other articles.	9980	8th Dec. 1843	Christopher Nickels.
Cutting and making up gloves - - - - -	10,340	3rd Oct. 1844	Samuel Pritchett.
Cutting and shaping garments and other articles of dress for the human body.	12,818	18th Oct. 1849	Thomas Dawson.
Arrangement of apparatus for cutting fabrics asunder	13,633	14th May 1851	{ Luke Smith. Mark Smith. Matthew Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTTING, SAWING, &amp;c.—continued.</b>			
<b>XX.—Cutting Vegetable Substances, Hay, Straw, &amp;c.</b>			
Cutting straw into chaff; cutting unthrashed grain; cutting wheat, oats, or other grain in the ear, with clover or other grass.	2053	2nd June 1795	William Naylor.
Machine for cutting straw into provender for cattle, and for other purposes.	2362	6th Dec. 1799	John Palmer.
Machine for cutting hay and straw into chaff for the use of cattle.	2375	4th Feb. 1800	William Lester.
Machine for cutting hay and straw into chaff -	2480	17th Feb. 1801	William Lester.
Machine for cutting straw as fodder for cattle -	2637	23rd July 1802	Thomas Sawdon.
Machine for cutting turnips, cabbages, carrots, and other roots, for feeding cattle.	2716	21st June 1803	Thomas Brown.
Machine for chopping straw and for splitting beans	2753	9th Feb. 1804	Thomas Passmore.
Engine for cutting hay and straw into chaff, and for cutting other articles.	3108	4th Feb. 1808	William Francis Snowden.
Machine for splitting beans or any other kind of grain, and various other articles.	3368	2nd Aug. 1810	Charles Williams.
Machine for cutting hay and straw - - -	3926	14th June 1815	James Gardner.
Machine for cutting or reducing various articles into chaff, as dry fodder for horses and cattle.	4234	7th March 1818	Thomas Heppenstall.
Machine to cut straw - - - - -	4407	1st Nov. 1819	Samuel Shorthouse.
Machines for cutting turnips, mangel-wurzel, and other roots used as food for sheep, cattle, and other animals.	6684	25th Sept. 1834	James Gardner.
Machines for cutting turnips, mangel-wurzel, and other roots used as food for sheep, cattle, and other animals.	7273	11th Jan. 1837	James Gardner.
Machinery for cutting turnips, mangel-wurzel, and other roots used as food for sheep, cattle, and other animals.	7804	12th Dec. 1838	James Gardner.
Machinery for cutting and preparing straw, hay, and other vegetable matters.	8560	6th July 1840	Charles May.
Machinery for cutting vegetable substances - -	8578	29th July 1840	John Swain Worth.
Machinery for cutting vegetable and other substances - - - - -	8660	15th Oct. 1840	{ Henry George Francis Earl of Ducie. Richard Clyburn. Edwin Rudding.
Machinery for cutting certain vegetable substances -	8844	29th April 1841	George Townshend.
Cutting vegetable substances as food for cattle -	8962	20th May 1841	Charles Phillips.
Machinery for cutting turnips, mangel-wurzel, carrots, and other roots, for food for horned cattle, horses, and other animals.	9278	7th March 1842	John Green, junior.
Machinery for cutting food for animals - - -	9474	22nd Sept. 1842	{ John Sanders. William Williams. Samuel Lawrence Taylor. William Armstrong. Evan William David.
Cutting hay, straw, and other vegetable matters, for the food of animals.	9500	27th Oct. 1842	James Gardner.
Cutting hay, straw, and other vegetable matters, for the food of animals.	9791	17th June 1843	James Gardner.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CUTTING, SAWING, &amp;c.—continued.</b>			
Machinery for cutting vegetable substances as food for cattle.	9812	3rd July 1843	Charles Phillips.
Machinery for cutting vegetable substances - -	10,241	3rd July 1844	Henry Smith.
Machinery for cutting vegetable substances - -	10,487	21st Jan. 1845	James Tarver.
Cutting, slicing, grinding, and rasping machine -	10,691	29th May 1845	Charles William Firchild.
Machine for cutting, slicing, and otherwise dividing hay, straw, turnips, and other vegetable substances.	11,172	18th April 1846	John Gillett.
Machinery for cutting and separating vegetable substances.	11,638	23rd March 1847	Henry Smith.
Machines for cutting hay and straw into chaff, and for cutting other vegetable substances.	12,346	29th Nov. 1848	William Rothwell Lomax.
Machinery for cutting straw, clover, and hay -	12,704	12th July 1849	{ George Cottam. Edward Cottam.
Machinery for cutting straw and other similar substances - - - - - }	13,065	30th April 1850	{ Charles May. Robert Leggett.
Apparatus for cutting turnips and other similar substances as food for cattle.	13,164	3rd July 1850	Charles Phillips.
Machinery for cutting turnips and other substances	13,466	21st Jan. 1851	William Burgess.
Apparatus for cutting turnips, carrots, mangel-wurzel, and other vegetables.	13,472	23rd Jan. 1851	Alexander Samuelson.
Cutting and slicing machine - - - - -	14,316	7th Oct. 1852	Alexander Shairp.
[For cutting Soap, see "SOAP MANUFACTURE."]			
[For cutting Tallow, Wax, and Candle-wicks, see "CANDLE MANUFACTURE."]			



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CYLINDERS, ROLLERS, PISTONS, AND STUFFING-BOXES.</b>			
<b>Making, casting, boring, &amp;c.</b>			
1. ( <i>Miscellaneous.</i> )			
Casting cylinders, pipes, sugar-rolls, and such-like instruments.	723	21st April 1758	Isaac Wilkinson.
Construction of piston-cylinders and suction-chambers.	2114	31st May 1796	John Strong.
Machine for boring cylinders - - - -	2373	22nd Dec. 1802	Michael Billingsley.
Rolls for punching tire and drawing hoops for stocks of wheels; segment for sweeping and setting the same.	3092	19th Dec. 1807	William Juniper.
Welding and making cylinders of iron and steel -	3617	28th Nov. 1812	Henry Osborn.
Making tools for tapering cylinders of iron, steel, or other metal or mixture of metals; also for tapering bars of the same materials.	3740	15th Oct. 1813	Henry Osborn.
Method of producing various descriptions of cylinders.	4005	23rd March 1816	Henry Osborn.
Pistons - - - - -	4082	31st Aug. 1816	John Barton.
Method of producing various descriptions of cylinders.	4105	1st March 1817	William Henry Osborn.
Making and constructing solid and hollow rollers or cylinders.	4123	17th May 1817	Benjamin Cook.
Application of a certain material to the making of rollers or cylinders.	4167	3rd Oct. 1817	John Dale.
Expanding hydrostatic piston, to resist the pressure of certain fluids, and to slide in an imperfect cylinder.	4613	10th Nov. 1821	Edward Bowles Symes.
Manufacturing metallic tubes, cylinders, cones, or other forms adapted to and for the construction of masts, yards, booms, bowsprits, or casks, or for any other purposes.	4644	5th Feb. 1822	Robert Bill.
Elastic metallic piston or packing of pistons, to be applied either externally or internally to cylinders.	4770	27th March 1823	William Jessop.
Machinery and process for making metallic rollers and cylinders, and other articles [ <i>casting</i> ].	4942	15th April 1824	Thomas Gethen.
Casting cylinders, tubes, and articles of iron, copper, and other metals.	5084	18th Jan. 1825	William Church.
Construction of pistons or buckets for pumps -	5457	1st Feb. 1827	John White.
Making hollow cylinders in wrought iron, steel, or a composition of both those metals.	5553	11th Oct. 1827	Joshua Horton.
Making iron cylinders - - - - -	6097	21st March 1831	George Royl.
Piston for steam, gas, and other engines - -	6204	22nd Dec. 1831	Samuel Hall.
Metallic pistons and pump-buckets - - -	6606	12th May 1834	John M'Dowall.
Construction and adaptation of metallic packing for the pistons of steam and other engines, also for pumps, and for other purposes to which the same may be applied - - - - -	6638	4th July 1834	{ Benjamin Hick. Edward Evans. John Higgins.
Manufacture of steam-engine cylinders, pistons, and other articles.	6873	7th Aug. 1835	William Mason.
Metallic pistons - - - - -	7919	18th Dec. 1838	Benjamin Goodfellow.
Manufacture of cylinders - - - - -	8464	4th April 1840	Thomas Smedley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CYLINDERS, &amp;c.—continued.</b>			
Stuffing-boxes - - - - -	8494	5th May 1840	William Beetsen.
Stuffing-boxes - - - - -	8590	5th Aug. 1840	William Beetsen.
Construction of pistons - - - - -	8729	28th Nov. 1840	{ George Holworthy Palmer. Charles Perkins.
Apparatus for forging, drawing, moulding, or forming rollers in metal.	8835	8th Feb. 1841	William Ryder.
Construction of metallic pistons - - - - -	9671	20th March 1843	William Barker.
Manufacture of certain bowls or rolls - - - - -	9718	2nd May 1843	James Hesford.
Construction and manufacture of cylinders, hoops, and rollers; machinery connected therewith.	10,073	24th Feb. 1844	Peter Rothwell Jackson.
Metallic pistons - - - - -	11,183	28th April 1846	{ William Mather. Colin Mather.
Manufacture of rolls for rolling iron and other metals.	11,322	4th Aug. 1846	Thomas Payne.
Forming leather into tubes, cylinders, &c. - - -	11,413	15th Oct. 1846	{ François Durand. Onésiphore Pecqueur.
Making metallic cylinders and other similar articles.	11,435	3rd Nov. 1846	William Exall.
Constructing pistons - - - - -	11,745	12th June 1847	James Richards.
Rolls used in the manufacture and shaping of iron.	11,781	3rd July 1847	Jeremiah Brown.
Manufacture of copper and other metallic cylinders for printing silks and other fabrics, and for other similar purposes; casting copper and other metallic cylinders, tubes, and rollers, hollow and free from air-bubbles - - - - -	11,888	9th Sept. 1847	{ David Morgan. John Borlase Jenkins.
Engines to be worked by steam, air, or gas [ <i>packing for stuffing-boxes</i> ].	12,399	4th Jan. 1849	William Crofton Moat.
Constructing the cylinders or barrels of capstans and windlasses.	12,408	11th Jan. 1849	Francis Hobler.
Mode of giving form to certain metals when in a fluid or molten state [ <i>casting metal tubes</i> ].	12,509	14th March 1849	Andrew Shanks.
Steam-engine [ <i>packing pistons</i> ] - - - - -	12,776	20th Sept. 1849	{ William Peace. Edward Evans.
Pistons [ <i>this part of the patent was disclaimed</i> ] -	12,626	2nd June 1849	Moses Poole.
Manufacture of packing for steam-engine cylinders, and for other purposes;—partly applicable to the manufacturing waterproof fabrics and leather [ <i>stuffing-boxes</i> ].	12,660	14th June 1849	Michael John Haines.
Packing pistons, stuffing-boxes, slides, and other parts of machinery; making cylinders and other forms of metal.	12,802	12th Oct. 1849	William Stedman Gillett.
Steam-engines [ <i>packing for stuffing-boxes</i> ] - - -	13,159	3rd July 1850	Paul Rapsey Hodge.
Steam-engines [ <i>packing pistons</i> ] - - - - -	13,185	22nd July 1850	Thomas Mills.
Pistons of steam-engines - - - - -	13,246	5th Sept. 1850	{ William Erskine Coch- rane. Henry Francis.
Stuffing-boxes - - - - -	13,272	4th Oct. 1850	Julian Bernard.
Improvements in steam-engines [ <i>metallic packed pistons</i> ].	13,410	12th Dec. 1850	William Beckett Johnson.
Packing stuffing-boxes and pistons - - - - -	13,682	3rd July 1851	{ Richard Jex Crickmer. Frederick William Crick- mer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CYLINDERS, &amp;c.—continued.</b>			
Obtaining motive-power; machinery employed therein [ <i>applying fluids as a packing for pistons</i> ].	14,031	24th March 1852	Antoine Maurice Fardy De Montravel.
Steam-engines [ <i>pistons, piston-rods, cylinders, cylinder-covers and valve-covers, connecting-rods and shafts</i> ].	14,182	24th June 1852	James Edward MacConnell.
Construction of steam-engines [ <i>packing pistons</i> ] -	14,259	12th Aug. 1852	{ Daniel Adamson. Leonard Cooper.
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<b>2. (Cylinders and Rollers for Printing, &amp;c.)</b>			
Engraved cylinders for impressing metals - -	1242	26th Dec. 1779	William Bell.
A double copper cylinder and plate for printing sprigs or spots on calico, cottons, stuffs, linen, silk, satin, cloth, woollen, baize, and leather.	2459	17th Dec. 1800	James Duxbury.
Preparing rollers and blocks for calico printing -	3322	6th April 1810	Jonathan Ridgway.
Making copper rollers for printing - - -	3491	23rd Sept. 1811	William Fothergill.
Roller for printing cotton or linen cloth - -	3902	4th April 1815	Jonathan Ridgway.
Manufacture of copper and other metallic cylinders or rollers for calico printing.	4280	22nd July 1818	Richard Ormrod.
Making rollers for calico printing - - -	4287	7th Aug. 1818	George Hollingrake.
Mode of engraving and etching metal rollers used for printing upon woollen, cotton, linen, paper, cloth, silk, and other substances.	4525	9th Jan. 1821	John Leigh Bradbury.
Making cylinders for printing cottons, calicoes, and other articles.	4798	3rd June 1823	Thomas Attwood.
Producing a neb or slot in the roller, shell, or cylinder made of copper or other metal, and used in printing calico, muslin, cotton or linen cloths.	5082	14th Jan. 1825	Joseph Lockett.
Making nebs or slots in copper cylinders, for printing cottons, linen, silk stuffs, and other articles.	5110	26th Feb. 1825	Thomas Attwood.
Making rollers or cylinders of copper and other metal or mixture of metals, for printing calicoes, silks, cloths, and other articles.	5752	23rd April 1829	Benjamin Cook.
Making nebs and slots in shells or hollow cylinders of copper, brass, or other metals, for printing calicoes, muslins, cloths, silks, and other articles.	6024	1st Nov. 1830	Benjamin Cook.
Engraving and etching on cylindrical surfaces for printing and other purposes.	6587	31st March 1834	Hooton Deverill.
Manufacture of blocks, cylinders, or rollers, for printing silk, cotton, calico, or other fabrics.	6754	27th Jan. 1835	John Budd.
Preparing certain surfaces for being corroded with acids, to produce patterns and designs for certain kinds of printing and transparencies.	7805	26th March 1838	Charles Hullmandel.
Cylinders used in printing and embossing - -	8502	12th May 1840	Rice Harris.
Engraving cylinders, rollers, or other surfaces, for printing or embossing calicoes and other fabrics.	8610	27th Aug. 1840	Joseph Lockett.
Cylinders to be used for printing calicoes and other fabrics.	8758	30th Dec. 1840	William Henry Kempton.
Apparatus for preparing metal cylinders to be engraved or turned for use in printing calicoes or other fabrics.	10,432	12th Dec. 1844	Joseph Lockett.
Manufacture of copper and other metal cylinders } or rollers, for printing silks or other fabrics - - }	11,868	9th Sept. 1847	{ David Morgan. John Borlase Jenkins.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>CYLINDERS, &amp;c.—continued.</b>			
Construction of cylinders adapted for engraving -	12,348	21st Aug. 1848	Isaac Taylor.
Manufacture of certain metals; treating and working metals and alloys, and application of the same to various purposes [ <i>making rollers for printing purposes</i> ].	12,534	26th March 1849	Alexander Parkes.
Making cylinders and other forms of metal - -	12,802	12th Oct. 1849	William Stedman Gillett.
Engraving copper rollers and other metallic bodies -	12,942	26th Jan. 1850	John Dalton.
Machinery for manufacturing rollers and cylinders for calico printing and other purposes.	13,225	16th Aug. 1850	William Keates.
Manufacture of copper or other metallic rollers for calico printing; machinery or apparatus connected with such manufacture - - - -	13,261	19th Sept. 1850	{ James Nasmyth. John Barton.
Preparing and engraving rollers to be used for printing woven and other fabrics.	14,145	29th May 1852	Joseph Lees.
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<b>3. (For Spinning and Manufacturing.)</b>			
Making rollers used in spinning wool, cotton, silk, flax, tow, or other fibrous substances.	4052	3rd Aug. 1816	John Welch.
Construction of the cylinders of carding-engines and other machines used in preparing for spinning cotton, flax, wool, silk, and mixtures of such substances [ <i>with an external coating of plaster</i> ] -	4764	18th March 1823	{ William Crighton. John Crighton.
Construction of cylinders used in engines for carding cotton-wool, silk, and other fibrous materials.	7262	21st Dec. 1836	John Crighton.
Covering the cylinders of carding and scribbling engines with wire cards - - - -	9783	15th June 1843	{ George Lister. Edwin Budding.
Rollers and other machinery to be employed in flattening, preparing, and polishing wire for the construction of weaving-reeds, the rollers being applicable to other like purposes.	10,782	24th July 1845	Charles De Bergue.
Covering rollers used in spinning cotton and other threads - - - - -	10,885	9th Oct. 1845	{ Joseph Edward Judson. Edward Banton.
Apparatus employed in making rollers used in machinery for preparing and spinning cotton and other fibrous substances - - - -	11,489	14th Dec. 1846	{ Henry Bleasdale. William Ryder.
Construction of tin drums or rollers used in machinery for drawing, spinning, doubling, twisting, and throwing cotton-wool, silk, flax, and other fibrous substances.	12,228	1st Aug. 1848	Edward Gribben Wilson.
Rollers to be used in the manufacture of silk, cotton, woollen, and other fabrics - - -	12,986	2nd March 1850	{ Thomas Richards. William Taylor. James Wyld.
Machinery or apparatus and operations connected with the manufacture of cotton-wool, silk, and other fibrous substances, and the application of certain materials to the manufacture of textile fabrics [ <i>casting cylinders of carding-engines</i> ] -	13,072	7th May 1850	{ John Tatham. David Cheetham.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>D.</b>			
<b>DIVING, AND ENGINES FOR DIVING.</b>			
Making and using engines or instruments for diving, and for raising or bringing out of the sea or other deep waters any goods lost or cast away by shipwreck or otherwise.	56	2nd April 1632	Richard Norwood.
Discovery of wrecks and vessels sunk; also taking out of them goods, treasures, merchandise, guns, and ships' furniture.	163	16th March 1671	Edmund Custis.
New way of diving and living several hours under the water, by curing the air conveyed down for sustenance so as to make it fit for respiring whilst beneath the water - - - - -	185	12th Nov. 1675	{ Goodwin Wharton. William Perkins. James Innes, junior.
An ablution enabling persons to walk and remain under water three hours with no covering over their heads.	256	26th Aug. 1687	Henry Ayscoghe.
Engine or "sea crab," to enable a man to breathe under water with a pair of lungs fixed to his back as he swims.	262	8th Nov. 1689	Francis Smartfoot.
Engine for conveying air into a diving-vessel, to enable several persons at the same time to work under water for many hours, for the purpose of finding gold, silver, bullion, money, and goods lost at sea - - - - -	279	7th Oct. 1691	{ Sir Stephen Evance. Francis Tyssen. John Holland. Edmund Halley.
Engine, consisting of covering vessels and pipes, to enable men to work under water for several hours without any want of air.	280	17th Oct. 1691	James Trefusis and another.
Engine made of timber, with glass windows, door, air-pipes, leather sleeves, and braces affixed, to enable a man to work under water for many hours - - - - -	283	19th Oct. 1691	{ Samuel Atkinson. Samuel Weale. Nicholas Nicholls.
Invention whereby one or more men may continue and work under water for a quarter of an hour with freedom and clearness of sight, and, with the assistance of others that can swim, may recover and take up any bullion, plate, &c., without diving - - - - -	294	24th March 1692	{ Michael Rosse. James Johnson.
Diving-habit and engines, for enabling a man to work one hour under water, by means of an air-pump - - - - -	298	31st May 1692	{ Isaac Thompson. Captain Benjamin Graves. Thomas Joll. John Cuthbert.
Engine to convey air into pipes by means of bellows, and having plates covered with leather for securing the head and retaining air about the upper part of the body, for the purpose of enabling a man to see, walk, and work a considerable time, under water.	302	20th Sept. 1692	John Overing.
Engine for carrying four men fifteen fathoms or more under the surface of the sea, and in which they can work for twelve hours together.	308	— — 1692	John Williams.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DIVING, &amp;c.—continued.</b>			
Engine contrived so as to admit of a person enclosed in it to walk under water; method of forcing air into any depth of water to supply the said person, and to cause a lamp to burn while under water; also an engine which will float on the water in the most violent storms, but if inverted and supplied with air, will enable a person enclosed therein to sink to the bottom and ascend again without injury; purifying the air to make the same again serviceable for respiration, so that a man in either of the said engines may remain a long time under water without other air than what the engines contain.	518	17th March 1693	John Stapleton.
Machine of metal and other materials, whereby persons may descend twenty fathoms or more in the sea, and remain twenty-four hours.	333	10th April 1694	Samuel Winball.
Machine for diving - - - - -	421	20th Oct. 1720	Jacob Rowe.
Diving-machine, to be used in and about the stopping of holes and leaks in ships' bottoms.	2650	2nd Oct. 1802	William Forder.
Diving-machine to be used for various purposes -	2820	9th Feb. 1805	James Fullarton.
Sustaining life and enabling persons to move about under water without injury - - - - }	2868	19th July 1805	{ Johan Gottlieb. Frederic Schmidt. Robert Dickinson.
Apparatus for diving under water;—applicable to other purposes.	5176	31st May 1825	William Henry James.
Construction of diving-bells or apparatus for diving under water.	5273	28th Oct. 1825	Thomas Steele.
Apparatus for diving and working under water, and inspecting from above objects beneath the surface of the water.	6757	31st Jan. 1835	John Bethell.
Apparatus for descending under water - - -	6852	22nd June 1835	John William Fraser.
Apparatus for descending under water - - -	6929	14th Nov. 1835	John William Fraser.
Apparatus for and means of building and working under water;—partly applicable to other purposes.	7180	3rd Sept. 1836	William Bush.
Diving apparatus - - - - -	7695	19th June 1838	William Edward Newton.
Apparatus for and means of building and working under water.	9094	21st Sept. 1841	William Bush.
Enabling persons to remain under water and in noxious vapours [by affixing an apparatus supplied with oxygen to a diving-dress,—enabling a lamp to burn under water].	14,281	26th Aug. 1852	Pierre Amable de Saint Simon Sicard.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DRAWING AND PHOTOGRAPHY;—EXHIBITING PRINTS AND PAINTED SCENERY.</b>			
Composition to be laid on skins, paper, or linen, for drawing or writing on with a pen and ink or pencil, and rubbing off clean.	809	31st March 1764	George Cummings.
Reducing and taking shadows, with appendages and apparatus for taking likenesses, furniture and decorations, in miniature.	1100	24th June 1775	Sarah Harrington.
Machine for writing or drawing by lines - - -	1156	9th June 1777	Joseph Fisher.
Optical instrument or accurate delineator, entirely obviating the defects of the camera-obscura, being used without the assistance of the sun in the day-time, and also by candle-light, for drawing the human face, inside of rooms or buildings, also perspectives, landscapes, foliage and fibres of trees and flowers, exactly representing the true outlines, lights, shades, and colours.	1183	4th March 1778	William Storer.
Drawing and taking any visible object to any size, on true mathematical principles.	1578	19th Dec. 1786	Thomas Henderson.
Apparatus called <i>La nature à coup-d'œil</i> , for displaying views of nature at large, by oil-painting, fresco, water-colours, crayons, or other mode of painting or drawing.	1612	19th June 1787	Robert Barker.
Apparatus by means of which several prints or drawings may be contained and exhibited in the same frame, and changed or varied at pleasure, and whereby each print will produce the same effect as if contained in a separate frame.	1934	27th Feb. 1793	James Hitchcock.
Writing and drawing machine, for making two or three similar writings or drawings at the same time and by the same person.	2305	11th April 1799	Marc Isambard Brunel.
Optical apparatus, to represent human figures in a dark space or scene, and by which means painters and other artists may accurately enlarge or diminish any painting.	2575	26th Jan. 1802	Paul De Philesthal.
Machinery and methods for writing, painting, drawing, ruling lines and other things, the machinery being applicable in part to other purposes.	2735	24th Sept. 1803	Isaac Hawkins.
System of writing, drawing, and using certain characters, figures and instruments, to facilitate correspondence and other literary operations.	2797	19th Dec. 1804	Stephen Pasquier.
Instrument whereby a person may draw in perspective, or copy or reduce any print or drawing.	2993	4th Dec. 1806	William Hyde Wollaston.
Delineator, copier, or proportionometer, for copying and tracing reversely on copper, brass, hard wood, paper, asses' skin, ivory, and glass, to different proportions and directly from nature, landscapes, prospects, or other objects, standing or previously placed perpendicularly; also pictures, drawings, prints, plans, caricatures, and public characters.	3000	22nd Dec. 1806	Charles Schmalcalder.
Apparatus for producing several original writings or drawings at one and the same time ("manifold writer").	3110	22nd Feb. 1808	Ralph Wedgwood.
"Diorama," or method of exhibiting painted scenery, and distributing or directing the day-light upon or through them.	4889	10th Feb. 1824	John Arrowsmith.
Tracing-apparatus, to facilitate the drawing from nature [ <i>on paper</i> ].	5132	23rd March 1825	Francis Ronalds.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DRAWING, &amp;c.—continued.</b>			
Machine for drawing, copying and reducing drawings, and for taking panoramas.	6149	10th Aug. 1831	Jean Marie Etienne Ardit.
Apparatus for sketching, drawing, or delineating -	6301	8th Sept. 1832	Caroline Eliza Ann Burges
Means, apparatus and machinery, for exhibiting scenery, paintings, and pictures.	6408	4th April 1833	Joseph Gibbs.
Multiplying certain drawings and engravings or impressions.	6715	15th Nov. 1834	Samuel Garner.
Machinery for taking a fac-simile of the human countenance, copy of a bust or sculptured figure, or of a living or other subject; "Physiognotype."	6732	18th Dec. 1834	Richard Rettford.
Obtaining or producing duplicate copies of manuscript writings and drawings; machinery for the purpose.	6831	13th May 1835	Thomas Dunkin.
Sketching, drawing, or delineating - - -	7052	31st March 1836	Samuel Parlour.
Method of obtaining the spontaneous reproduction of all the images received in the focus of the camera-obscura.	8194	14th Aug. 1839	Miles Berry.
Apparatus for obtaining likenesses and representations of nature, drawings, and other objects.	8546	13th June 1840	Richard Beard.
New effect of light and shadow,—imitating a brush or stump drawing, or both combined, being an impression on paper from a prepared plate or stone; preparing the said plate or stone.	8663	5th Nov. 1840	Charles Joseph Hullmandell.
Obtaining pictures or representations of objects -	8842	8th Feb. 1841	William Henry Fox Talbot.
Process or means of and apparatus for obtaining images or representations of nature or art.	9193	18th Dec. 1841	Antoine Jean François Claudet.
Taking likenesses and representations of nature and of other objects.	9292	10th March 1842	Richard Beard.
Obtaining images on metallic and other surfaces -	9408	7th July 1842	Richard Hodgson.
Instruments for writing or marking;—partly applicable to brushes for water-colour drawing.	9531	3rd Dec. 1842	Edward Cobbold.
Photography, and application of the same to the arts - - - - -	9672	18th March 1843	{ Alexander Simon Wolcott. John Johnson.
Photography - - - - -	9753	1st June 1843	William Henry Fox Talbot.
Apparatus for obtaining the profile of various forms or figures.	9862	8th Aug. 1843	Charles Bourjot.
Apparatus for obtaining the profile of various forms or figures.	9955	21st Nov. 1843	Octavius Dillingham Mordaunt.
Process and means of obtaining the representation of objects of nature and art.	9957	21st Nov. 1843	Antoine Jean François Claudet.
Machinery for tracing and copying designs, drawings, and etchings of all kinds, either of the original size or upon an enlarged or reduced scale.	10,016	16th Jan. 1844	William Edward Newton.
Producing designs and copies; multiplying impressions either of printed or written surfaces.	10,318	6th June 1844	Joseph Woods.
Facilitating drawing from nature and models; and apparatus for the purpose.	10,240	3rd July 1844	Anthony Lorimier.
Apparatus for drawing and marking - - -	11,000	10th Dec. 1845	Moses Poole.
Exhibiting and protecting certain coloured fabrics, ornamental inscriptions, and other designs [enclosing them between two sheets of glass, cemented together at the edges].	11,561	2nd Feb. 1847	William Pidding.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DRAWING, &amp;c.—continued.</b>			
Machine for tracing from solid bodies or subjects in relief.	11,789	10th July 1847	Samuel Stokes.
Producing outlines on paper, pasteboard, parchment, papier-mâché, and other like fabrics.	12,361	9th Dec. 1843	William Ironside Tait.
Construction of writing and drawing instruments -	12,383	21st Dec. 1848	William Riddell.
Writing and drawing instruments . . . .	12,691	4th July 1849	Robert William Thomson.
Photography . . . . .	12,906	19th Dec. 1849	{ William Henry Fox Talbot. Thomas Augustine Malone.
Means and apparatus for obtaining copies of writings, drawings, and other designs [ <i>lithographic process</i> ].	12,913	3rd Jan. 1850	Albert Crakell Waterlow.
Articles used for writing and drawing; fastenings for the same.	13,151	24th June 1850	Edward Mitchell.
Photography . . . . .	13,664	12th June 1851	William Henry Fox Talbot.
Delineating objects; apparatus and materials for that purpose.	13,726	23rd Aug. 1851	James Palmer.
Reproducing drawings; mode of obtaining designs, to be principally used in the engraving of surfaces for printing fabrics.	13,969	12th Feb. 1852	Charles Louis Barbé.
Colouring of photographic images . . . .	14,302	23rd Sept. 1852	Jacques Léon Tardieu.
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<b>DYEING AND COLOURING.</b>			
<b>I.—Dyeing, and Dyeing-machines.</b>			
Dyeing colours with materials of native growth, without the use of cochineal.	68	29th Jan. 1634	David Ramsey.
Dyeing green and blue Saxon colours . . . .	635	8th Aug. 1748	{ George Spence. Charles Dolby. John Christopher Weguelin.
Dyeing . . . . .	2731	3rd Aug. 1803	John Edwards.
Producing Swiss deep and pale reds by topical mordants, and a pale blue discharge on the same reds . . . . .	4246	11th April 1818	{ Gilbert Lang. Robert Smith.
Dyeing . . . . .	4797	3rd June 1823	Richard Badnall.
Dyeing by the use and application of certain vegetable materials.	5139	29th March 1825	James Hanmer Baker.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DYEING AND COLOURING—continued.</b>			
Employing prussiate of iron as a substitute for indigo in dyeing wools, whether in the fleece, skin, spun, or woven into cloth, stuffs, or otherwise; also in dyeing silks, cottons, linens, and other substances; arrangement of utensils and machinery to be used in the said dyeing process	6247	22nd March 1832	{ William Alexander Brown. Herman Hendriks.
Dyeing blue colours without indigo - - -	6492	19th Oct. 1833	Herman Hendriks.
Dyeing - - - - -	6784	11th March 1835	Herman Hendriks.
Apparatus for dyeing, and other similar operations -	7229	22nd Nov. 1836	John Buchanan.
Dyeing by the use of materials not hitherto so employed - - - - -	7336	29th April 1837	{ Alexander Dixon. James Dixon.
Dyeing - - - - -	10,070	24th May 1841	Alexander Alliott.
Dyeing - - - - -	10,118	21st March 1841	Moses Poole.
Application and use of chemical compounds for dyeing and producing colour [ <i>cyanogen and prussiate of potash</i> ].	10,227	12th June 1844	John Swindells.
Dyeing-machines - - - - -	10,494	25th Jan. 1845	Johann Gottlob Seyrig.
Dyeing - - - - -	10,715	10th June 1845	James Murdoch.
Dyeing - - - - -	10,783	25th July 1845	Richard Archibald Brooman.
Machinery to be used in dyeing or staining - -	10,889	23rd Oct. 1845	William Henry Stevenson.
Dyeing Turkey-red and other colours - - -	11,064	29th Jan. 1846	John Greenwood.
Dyeing Turkey-red and other colours - - -	11,252	22nd June 1846	{ John Mercer. John Greenwood.
Dyeing - - - - -	11,848	2nd Sept. 1847	Robert Oxland.
Dyeing - - - - -	12,451	5th Feb. 1849	Jean Adolphe Cartéron.
Dyeing - - - - -	12,841	10th Nov. 1849	Samuel Brown Oliver.
Application of orchil to the processes of printing and dyeing in colours; apparatus for dyeing.	13,026	26th March 1850	Joseph Theodore Clenchard.
Dyeing - - - - -	13,357	19th Nov. 1850	Clemence Augustus Kurtz.
Dyeing-machines - - - - -	13,490	3rd Feb. 1851	Alexander Alliott.
Dyeing - - - - -	13,673	24th June 1851	John Brazil.
Dyeing, and other processes connected therewith -	13,903	20th Jan. 1852	{ John Whitehead. Robert Diggle.
<b>II.—Yarns, Warps, Fibrous and other Materials.</b>			
Dyeing unwrought wool, linen, silk and cotton, various colours by means of a liquor extracted from a red wood growing in the West Indies -	956	27th April 1770	{ William Hollings. Enos Smith.
Preventing, wringing, and crushing of unwrought silk, in the process of dyeing.	1728	23rd Feb. 1790	James Lewis Desormeaux.
Dyeing cotton yarn of a nankeen and buff colour -	2786	3rd Oct. 1804	Robert Frith.
Dyeing silk, wool, worsted, mohair, fur, cotton, and linen, in the raw or manufactured state.	2870	19th July 1805	Peter Marsland.
Dyeing East India sun-hemp - - - - -	3081	11th April 1807	Thomas Paty.
Dyeing silk, woollen, and cotton yarn - - -	3936	29th June 1815	Samuel John Smith.
Preparing raw silk and cleansing the same for the purpose of dyeing and manufacturing [ <i>by soap and water</i> ].	4628	19th Dec. 1821	Samuel Brierley.
Dyeing or producing a permanent nankeen colour on cotton-wool, skein-yarn, and certain other articles.	4758	18th Feb. 1823	Thomas Bury.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DYEING AND COLOURING—continued.</b>			
Dyeing all descriptions of cotton, linen, wool, silk, or any mixture of them, with colouring matter extracted from spent madder.	6370	2nd June 1832	Frederick Steiner.
Dyeing wool and woollen fabrics yellow - - -	6589	8th April 1834	Herman Hendriks.
Manufacture of silk, and silk in combination with certain other fibrous substances [ <i>dyeing silk-waste slicers</i> ] - - - - -	7228	19th Nov. 1836	{ John Gordon Campbell. John Gibson.
Processes to be used in the dyeing or colouring of cotton, woollen, silk, or other yarns - - - -	8183	1st Aug. 1839	{ John Mercer. John Dyneley Prince, jun. William Blythe.
Dyeing materials to be used in the weaving and manufacture of Kidderminster carpets [ <i>weft threads in parti-colours</i> ].	8740	16th Dec. 1840	Hugh Graham.
Process of dyeing various matters, whether the raw material of wool, silk, flax, hemp, cotton, or other similar fibrous substances, or the same in any stage of manufacture - - - - -	9127	26th Oct. 1841	{ Martyn John Roberts. William Brown.
Dyeing cotton yarns - - - - -	9196	21st Dec. 1841	William Newton.
Dyeing wool - - - - -	9367	26th May 1842	Peter Kagenbusch.
Dyeing wool - - - - -	9613	26th Jan. 1843	Martyn John Roberts.
Dyeing yarns of wool, flax, cotton, silk, and other fibrous materials.	10,231	19th June 1844	William Sutcliffe.
Flax-spinning, and flax-spinning machinery;—applicable to the manufacture of other fibrous substances [ <i>dyeing flax and other fibrous substances during the process of spinning</i> ] - - -	10,454	6th Jan. 1845	{ Thomas Russell. John Peter.
Dyeing cotton, flaxen, and hempen yarns - - -	10,703	3rd June 1845	William Newton.
Preparation of certain vegetable and animal substances, and certain combinations of the same substances, alone or with other matters [ <i>dyeing caoutchouc and gutta-percha</i> ]. [The word "animal" is disclaimed.]	11,147	25th March 1846	Alexander Parkes.
Dyeing fibrous substances - - - - -	11,367	3rd Sept. 1846	George Senior.
Apparatus for dyeing animal or vegetable fibrous substances.	12,461	8th Feb. 1849	Joseph Barnes.
Operations applicable to dyeing warps - - - -	12,565	16th April 1849	{ Thomas Cocksey. James Nightingale.
Dyeing fibrous and other materials - - - -	12,581	21st April 1849	Charles Alexander Broquette.
Giving a gloss to dyed silk, in skeins or hanks -	12,779	20th Sept. 1849	John Baptiste Vudly.
Dyeing yarn - - - - -	13,263	26th Sept. 1850	Alfred Vincent Newton.
Preparation of cotton and other fibrous materials [ <i>subjecting yarn or raw materials to the action of caustic soda or potash, dilute sulphuric acid, or solution of chloride of zinc, to prepare them for dyeing or printing</i> ].	13,296	24th Oct. 1850	John Mercer.
Dyeing wool and other fibrous materials and fabrics	13,304	2nd Nov. 1850	Victor Emile Warmont.
Dyeing [yarn] - - - - -	13,357	19th Nov. 1850	Clemence Augustus Kurtz.
Manufacture of bleached, coloured, or parti-coloured threads or yarns [ <i>dyeing slicers</i> ].	13,569	24th March 1851	James Cheetham.
Application of colouring matter to linen, cotton, silk, woollen, and other web; machinery or apparatus for the purpose.	13,622	6th May 1851	Alexis Delemer.
Preparation of cotton for dyeing [ <i>and bleaching</i> ] -	13,663	3rd July 1851	Charles Cowper.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DYEING AND COLOURING—continued.</b>			
Applying colours to yarns or threads - - -	13,834	27th Nov. 1851	Richard Whytock.
Dyeing flax and hemp; mixing them with other textile substances.	14,314	7th Oct. 1852	Pierre Armand le Comte de Fontainemoreau.
<b>III.—Woven Fabrics (Calicoes, Linens, &amp;c.)</b>			
Dyeing buckrams and tillets in whole pieces - -	106	18th May 1637	Samuel Mason.
Making, staining, and colouring stuff so as to resemble tapestry hangings.	235	3rd July 1684	Mary Marshall.
Preparing crapes and all kinds of woollen stuffs and silks, before they are dyed, in such manner that any flowers or other figures thus prepared on them will appear in different colours on the same piece after they have been dyed.	332	10th April 1694	Francis Poussett.
Producing colours in cloths of woollen or silk, simple or compound, in figures, flowers, and other designs.	343	2nd Aug. 1695	Ralph Lane.
Dyeing or staining calicoes in grain - - -	400	19th Nov. 1715	Charles Dubison.
Preparing cloths intended to be dyed scarlet, so as to more effectually ground the colours and preserve their beauty, and for other purposes.	630	19th March 1748	Onesiphorus Paul.
Staining and colouring flannels and other woollens	659	22nd Jan. 1751	John Elliott.
Staining calimancoes and other woollen goods -	692	3rd July 1754	George Bowser.
Dyeing wrought and unwrought woollens, linens, silk, and cottons of various colours, by means of a liquid extracted from a red wood growing in the West Indies - - - - -	956	27th April 1770	{ William Hollings. Enos Smith.
Staining or colouring the whole or part of the surface of plain, striped, or flowered cotton velvet, long or short piled shag, and plush.	1175	31st Dec. 1777	Stephen Dolignon.
Tyeing the spots of silk handkerchiefs in imitation of India handkerchiefs - - - - -	1299	27th July 1781	{ John Peltraw. William Naylor.
Dyeing, in boiling liquors, woollen cloths or articles composed chiefly of woollen, in various devices representing foliages, scrolls, lines, and other forms, the same being effected by certain frames and moulds made of hard metals.	1629	22nd Nov. 1787	Nathaniel Watts.
Dyeing woollen cloths, stuffs, and other materials in various colours, and of any figure, pattern, or design.	1797	13th March 1791	George Jeffreys.
Machine for dyeing or staining silk handkerchiefs, cottons, calicoes, muslins, and other articles.	1921	28th Nov. 1792	James Bayley.
Machine for staining calicoes and other goods -	2084	4th Feb. 1796	William Paul.
Chemical method of dyeing a permanent colour on cottons, linen, woollen, and silk.	2237	25th May 1798	Robert Frith.
Colouring or staining linens, calicoes, and other cloths.	2311	30th April 1799	William Gillispie.
Dyeing and staining colours on cotton-cloth, linen-cloth, and cloth of cotton and linen mixed.	2331	17th July 1799	Samuel Gratrix.
Dyeing cloth - - - - -	2417	20th June 1800	{ Robert Fryer. James Bennett.
Dyeing, or a new method of cooling the cloth or piece-goods, and of applying the fire for heating the boiler or other vessels;—applicable to the heating of other boilers or vessels.	2572	16th Jan. 1802	Joseph Lewis.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DYEING AND COLOURING—continued.</b>			
Dyeing cotton-twist, cotton-weft, and cotton-cloth of a nankeen and buff colour.	2786	3rd Oct. 1804	Robert Frith.
Dyeing silk, woollen, worsted, mohair, fur, hair, cotton, and linen, in a manufactured, unmanufactured, or raw state.	2870	19th July 1805	Peter Marsland.
Producing fast greens on cottons and various other articles.	3206	21st Feb. 1809	Joseph Hett.
Staining or dyeing goods manufactured of cotton -	3936	29th June 1815	Samuel John Smith.
Dyeing cloths and other substances - - -	4425	18th Dec. 1819	Thomas Dehany Hall.
Dyeing fast colours on cottons, linens, silks, mohair, worsted, and woollens.	4496	9th Oct. 1820	Robert Frith.
Dyeing woollen and other fabrics [in patterns, by stopping out with paste] - - - -	5225	26th July 1825	{ David Oliver Richardson. William Hirst.
Combining and displaying the colours of thread with two or more colours, in piece-goods.	5369	23rd May 1826	Abraham Dixon.
Dyeing piece-goods by machinery [with conducting-rollers for distending the fabrics].	5597	2nd Jan. 1828	James Hall, junior.
Mode of improving dyed silk - - - -	6265	3rd May 1832	Robert James Hendrie, junior.
Dyeing cotton, linen, wool, silk, or any mixture of them, with colouring matter extracted from spent madder.	6270	2nd June 1832	Frederick Steiner.
Dyeing woollen fabrics yellow - - - -	6589	8th April 1834	Herman Hendriks.
Dyeing and scouring piece-goods and other fabrics; machinery for the purpose - - - -	7292	28th Jan. 1837	{ James Hellewell. Aaron Fearn.
Producing by dyeing, various figures or objects of various colours, in woollen, worsted, cotton, silk, and other cloths.	7709	27th June 1838	James Robinson.
Colouring or dyeing cotton or other fabrics - -	7843	3rd Nov. 1838	Abraham Bury.
Processes to be used in the dyeing or colouring of cotton, woollen, silk, or other cloths - - -	8183	1st Aug. 1839	{ John Meroer. John Dyneley Prince, jun. William Blythe.
Fixing colour in cloth - - - - -	8245	19th Oct. 1839	Charles Rober.
Fixing colour in cloth - - - - -	8415	7th March 1840	Charles Rober.
Dyeing cotton fabrics - - - - -	9196	21st Dec. 1841	William Newton.
Dyeing woollen cloths, cotton, silks, and other fabrics and materials.	9367	26th May 1842	Peter Kagenbusch.
Dyeing woollen fabrics - - - - -	9613	26th Jan. 1843	Martyn John Roberts.
Dyeing and staining cotton, woollen, silk, and other fabrics.	9622	31st Jan. 1843	Charles Hancock.
Dyeing manufactured fabrics of wool, flax, cotton, silk, and other fibrous materials.	10,281	19th June 1844	William Sutcliffe.
Dyeing, staining, or producing marks or patterns upon woven, felted, or other fabrics.	10,421	7th Dec. 1844	William Wood.
Dyeing or staining various fabrics - - - -	10,448	30th Dec. 1844	Louis Joseph Wallerand.
Dyeing cotton, flaxen, and hempen fabrics - -	10,703	3rd June 1845	William Newton.
Dyeing or staining woven or piece-goods or fabrics; machinery used in such operation.	10,896	25th Oct. 1845	John Davies.
Dyeing piece-goods or woven fabrics - - - -	10,904	31st Oct. 1845	James Hardcastle.
Dyeing various fabrics - - - - -	10,994	10th Dec. 1845	Alfred Vincent Newton.
Dyeing silk - - - - -	11,714	24th May 1847	Henry Le Lievre.
Apparatus for dyeing animal or vegetable substances in a manufactured state.	12,461	8th Feb. 1849	Joseph Barnes.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DYEING AND COLOURING—continued.</b>			
Operations applicable to dyeing piece-goods - - -	12,565	16th April 1849	{ Thomas Cocksey. James Nightingale.
Dyeing fabrics and substances - - - -	12,618	24th May 1849	Andrew Crosse.
Processes and apparatus to be used in the Turkey-red dye on cotton and its fabrics.	12,621	24th May 1849	Frederick Steiner.
Dyeing fabrics of cotton and other fibrous materials.	12,916	3rd Jan. 1850	Thomas Lightfoot.
Machinery for dyeing textile and other fabrics -	12,942	26th Jan. 1850	John Dalton.
Ageing process in dyeing calicoes; also applicable to other processes in calico dyeing.	13,080	23rd May 1850	Simon Pincoffs.
Fixing colours in fabrics made of cotton or other fibre.	13,287	17th Oct. 1850	John Robert Johnson.
Preparation of cotton and other fabrics [ <i>subjecting them to the action of caustic soda or potash, dilute sulphuric acid, or solution of chloride of zinc, to prepare them for printing or dyeing</i> ].	13,296	24th Oct. 1850	John Mercer.
Colouring, varnishing, tinting, or shading woollen and cotton substances.	13,300	24th Oct. 1850	Samuel Jacobs.
Processes for increasing on manufactured fabrics the several shades of indigo.	13,544	10th March 1851	Victor Hyacinthe Guillemet.
Dyeing piece-goods - - - - -	13,580	31st March 1851	Joseph Richardson.
Application of colouring-matter to linens, cottons, silks, woollens, and other fabrics; machinery for the purpose.	13,632	6th May 1851	Alexis Delemer.
Dyeing textile fabrics - - - - -	13,856	10th Dec. 1851	Alfred Vincent Newton.
Preparing cotton and other fabrics for dyeing -	14,024	15th March 1852	{ John Mercer. John Greenwood.
<b>IV.—Apparel (Hats; also Straw and Chip).</b>			
Working and staining in straw and chip, and the plat and leaf of the palm-tree.	403	18th Feb. 1716	Thomas Masters.
Dyeing men's or women's black hats with ruffs of any colour.	522	22nd Oct. 1730	George Kettle.
Dyeing, staining, and stamping stockings and other apparel in all colours.	733	22nd Dec. 1758	Henry Brown.
Dyeing, staining, and colouring beaver and beaver-hats, commonly called felt or beaver or stuff hats, green or any other colour underneath or on one side only, preserving the natural colour on the other side.	1312	1st Jan. 1782	Robert Golding.
Dyeing and printing fast colours on straw, chip, and leghorn.	4496	9th Oct. 1820	Robert Frith.
Dyeing hats - - - - -	5337	18th Feb. 1826	Arnold Buffum.
Machinery employed in dyeing hats - - -	6028	4th Nov. 1830	John Bowler.
Apparatus for dyeing hats - - - - -	6286	19th July 1832	William Hodge.
Dyeing hats, by application of chemical matters -	7102	24th May 1836	William Watson.
<b>V.—Paper.</b>			
Dyeing paper and card-paper - - - -	951	25th Jan. 1770	{ Charles Fearn. James Gray.
Colouring, shading, tinting, or varnishing paper -	13,300	24th Oct. 1850	Samuel Jacobs.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DYEING AND COLOURING—continued.</b>			
<b>VI.—Stone.</b>			
Dyeing and colouring marble, stone, and other materials used in the construction or decoration of houses.	10,985	10th Dec. 1845	Henri Auguste Bex.
Colouring stone - - - - -	11,325	10th Aug. 1846	François Teychenné.
<b>VII.—Materials for Dyeing and Printing (Dyewoods, Liquors, Powders, &amp;c.)</b>			
Making and compounding smalt - - - - -	7	16th Feb. 1618	Abram Baker.
Drying, dressing, and bringing to perfection madder for dyeing.	28	22nd Jan. 1624	William Shipman.
Liquor, for colouring ships, also for graining and colouring wood, stone, &c. - - - - -	158	2nd March 1668	{ Sir Phillip Howard. Francis Wallson.
Preparing safflower - - - - -	159	3rd Feb. 1670	Eustace Burneby.
Making madder - - - - -	160	22nd Sept. 1670	James Smith.
Making stone-blue and powder-blue from dust of indigo, for cleansing cloths.	161	11th June 1675	Captain Gilbert Thomas.
Making orchil and litmus - - - - -	323	21st July 1693	Abraham Kemp.
Manufacturing and ordering roots and barks with other ingredients, for dyeing silks, wrought and unwrought, and woollen and linen cloth, in many colours, in grain and otherwise, with or without fire; also useful for limners and painters, for perforating glass, and for other purposes - - - - -	325	19th Sept. 1693	{ Matthew Elliston Robert Dodsworth. Samuel Weale. Robert Man.
Breeding and curing cochineal - - - - -	444	16th May 1722	George Sinclair.
Liquid blue, for blueing washed linen - - - - -	552	14th Feb. 1736	Joshua Coles.
Liquid blue, for dyeing linen, cottons, &c. - - - - -	694	26th Nov. 1754	{ Robert Maw. Thomas Bishop.
Dye called cudbear - - - - -	727	12th Aug. 1758	{ George Gordon. Cuthbert Gordon.
Composition for staining leather - - - - -	758	5th Feb. 1761	William Hayter.
Making orchil from rock or stone moss - - - - -	764	21st Jan. 1763	George Davy.
Liquor from wood, for dyeing woollen-cloth, linen, silk, and cotton - - - - -	958	27th April 1770	{ William Hollings. Enos Smith.
Preparation for staining horses and other animals, so as to make them match in colour; also for preserving cattle from flies and other insects, and for making such marks on animals as cannot be effaced without injury to the said animals.	1060	18th Jan. 1774	Thomas Johnston.
Use of certain vegetables for dyeing, staining, printing, painting or otherwise colouring, wool, hair, fur, silk, hemp, cotton, linen, skins, leather, paper, and wool.	1108	23rd Oct. 1775	Edward Bancroft.
Making colour for dyers and calico-printers - - - - -	1360	27th June 1780	Joseph Flight.
Making iron liquor - - - - -	1344	16th Nov. 1782	William Boothman.
Composition called "British smalts, or powder-blue."	1562	10th Oct. 1786	Thomas Simpson.
Making dye-stuff - - - - -	1802	2nd May 1791	William Murdock.
Preparing indigo for dyeing wool, silk, linen, cotton, and goods made from linen.	2176	25th March 1797	Joseph Barton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DYEING AND COLOURING—continued.</b>			
Purifying, refining, and preparing indigo for the use of dyers.	2259	11th Aug. 1798	William Birch.
Preparing colours in cakes and powders, from logwood and other vegetable substances, for dyeing.	2424	16th July 1800	Thomas Smyth.
Making iron liquor for the use of dyers and printers.	2507	24th March 1802	James Ashworth.
Applying madder in the dyeing of calicoes, linens, and stuffs.	2605	6th April 1802	John Leach.
Liquor for printing and dyeing linen, woollen, cotton, &c.	2813	23rd Jan. 1805	John Jones.
Preparing madder and madder-roots - - -	3762	29th Nov. 1813	Maurice De Jough.
Making a composition for dyeing scarlet and other colours.	3766	9th Dec. 1813	Thomas Wright.
Preparing a mordant for dyeing or printing - -	3936	29th June 1815	Samuel John Smith.
Preparing dyes for dyeing cloth and other substances.	4425	18th Dec. 1819	Thomas Dehany Hall.
Chemical liquid, or solution of annatto, for colouring cheese, for dyeing cloth, and other purposes.	4673	24th April 1822	Robert Ford.
Compound paste and liquid for improving and colouring lace net and other manufactured articles of flax, cotton-wool, silk, or other animal or vegetable substance, and whether composed of interstices or open or close work, and to be applied in dressing or getting up the same.	4769	24th March 1823	Thomas Wickham.
Preparation of a mucilage to be used in printing linen, woollen, or other cloths and silks.	4786	29th April 1823	John Bourdieu.
Preparing safflower (carthamas), to preserve its colouring principle from decay or deterioration [for dyeing].	4922	20th March 1824	Rupert Kirk.
Chemical substitute for gall-nuts [extract from the shell of the chestnut].	5285	8th Nov. 1825	Charles Louis Giroud.
Extracting colour from dye-woods and other substances, for purposes of dyeing.	5802	12th Feb. 1830	Joseph Marie Ursule la Rigandelle du Bouis-BOUL.
Employing prussiates of iron as substitutes for indigo in dyeing materials and fabrics.	6247	23rd March 1832	William Alexander Brown.
Process or processes by which spent madder can be made to yield a great quantity of colouring-matter; improving dyeing madders that have not been previously used.	6270	2nd June 1832	Frederick Steiner.
Manufacturing or preparing a certain substance from materials not hitherto used for that purpose, for dyeing blue and other colours - -	7013	26th Feb. 1836	{ William Gilyard Scarth. Robert Scarth.
Manufacturing colouring matter, and rendering certain colours applicable to dyeing, staining, and writing - - - - -	7342	18th April 1837	{ Henry Stephens. Ebenezer Nash.
Vegetable preparation applicable to dying blues and other colours.	7660	31st May 1838	George Mussey.
Manufacture of materials used in dyeing blue and other colours.	7865	8th Nov. 1838	William Watson, junior.
Manufacture of liquid ammonia, to make it applicable to dyeing, scouring, and other manufacturing purposes.	7877	20th Nov. 1838	William Watson, junior.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DYEING AND COLOURING—continued.</b>			
Obtaining dyes and colours from vegetable substances - - - - -	7964	11th Feb. 1839	{ Charles Gabriel Baron de Suarce. William Pontifex. }
Extracting colouring matters from wood and other matters used in dyeing.	8107	17th June 1839	Edward Loos.
Manufacture of dyes - - - - -	8175	1st Aug. 1839	Alphonse René le Mire de Normandy.
Separating colouring matters by filtration; employing such matters.	8296	4th Dec. 1839	Pierre Narcisse Cronier.
Treating fluids containing colouring matter, to obtain the colouring matter therefrom.	8364	28th Jan. 1840	William Pontifex.
Extracting colour contained in vegetable and animal substances - - - - -	8419	7th March 1840	{ William Maltby, junior. Richard Cuerton. }
Manufacture of articles used in printing and dyeing cotton, silk, woollen, and other fabrics - - -	9517	10th Nov. 1842	{ John Barnes. John Mercer. }
Manufacture of garancine - - - - -	9860	8th Aug. 1843	Frederick Steiner.
Preparation of various substances for the purpose of dyeing and producing colour [ <i>cyanogen</i> ].	10,227	12th June 1844	John Swindells.
Colouring matter to be used in dyeing certain colours on cotton, woollen, silk, and linen fabrics.	10,392	14th Nov. 1844	Frederick Steiner.
Manufacturing or preparing a vegetable preparation applicable to dyeing blue and other colours.	10,398	21st Nov. 1844	David Metcalfe.
Purifying lac, and converting it into shellac - -	10,423	7th Dec. 1844	Alphonse René le Mire de Normandy.
Preparing materials for colouring and printing calicoes and other fabrics.	10,661	8th May 1845	John M <sup>c</sup> Intosh.
Manufacture of certain chemical agents used in dyeing and printing cottons, woollen and other fabrics - - - - -	10,757	8th July 1845	{ John Greenwood. John Mercer. John Barnes. }
Manufacture of blue as a substitute for stone-blue -	10,759	8th July 1845	John Leifchild.
Increasing the illuminating power of coal-gas; converting the refuse arising in the manufacture of the same into an article of commerce not before produced therefrom [ <i>Prussian blue from the ammoniacal liquor used in manufacturing gas</i> ].	11,238	4th June 1846	George Lowe.
Preparing and using indigo in dyeing and printing woollen, cotton, and other fabrics.	11,514	31st Dec. 1846	Clemence Augustus Kurtz.
Manufacture of a certain colouring matter to be used in dyeing or printing woollen, cotton, silk, and other fabrics.	11,544	26th Jan. 1847	Clemence Augustus Kurtz.
Extracting colouring matters - - - - -	11,844	19th Aug. 1847	Aime Boura.
Preparing and using indigo in the dyeing and printing of woollen, cotton, and other fabrics.	11,866	9th Sept. 1847	Clemence Augustus Kurtz.
Preparation of material for fixing paint or pigment colours on cotton, linen, woollen, silk, and other woven fabrics.	12,316	2nd Nov. 1848	Robert Thomson Pattison.
Preparation of materials used in dyeing and printing	12,359	9th Dec. 1848	James Young.
Extracting and preparing the colouring matter from orchil.	12,477	14th Feb. 1849	Achille Chaudois.
Extracting and preparing colouring matter from orchil.	12,593	28th April 1849	Alphonse Garnier.
Manufacturing and preparing orchil and cudbear -	12,751	30th Aug. 1849	James Robinson.
Certain materials used in the processes of dyeing and printing - - - - -	12,807	12th Oct. 1849	{ John Mercer. William Blythe. }

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>DYEING AND COLOURING—continued.</b>			
Dyeing materials - - - - -	12,841	10th Nov. 1849	Samuel Brown Oliver.
Machinery for the production of and for ornamenting fabrics and tissues generally;—partly applicable to the regulation of other machinery, and to other similar purposes [ <i>colour table and boxes for printing fabrics</i> ].	12,980	27th Feb. 1850	Mathew Cochran.
Treating fatty and oily matters; application of the products of fatty and oily matters [ <i>treating fatty acids with certain metallic oxydes and peroxydes, for producing salts to be used as dyes</i> ].	13,056	23rd April 1850	Charles Humfrey.
Treating fatty, oleaginous, resinous, bituminous, and cerous bodies; manufacture and application of them, and of their components and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [ <i>application of chemical substances to dyeing or staining, or as mordants</i> ] - - - - -	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Preparation and manufacture of various materials to be used in the processes of dyeing, printing, and colouring.	13,100	4th June 1850	William Watson, junior.
Extraction and preparation of colouring matters from vegetable substances; apparatus employed therein.	13,178	17th July 1850	Jean Jules Varillat.
Preparation and application of products from metallic ores, for dyeing and printing.	13,342	14th Nov. 1850	John Swindells.
Manufacture of indigo - - - - -	13,404	12th Dec. 1850	Jean Aime Marnas.
Chemical compositions for fixing colours in dyeing -	13,431	27th Dec. 1850	Celeste Menotti.
A new application of certain fluids for making extracts applicable to dyeing and printing; apparatus connected therewith.	13,658	12th June 1851	Frederick Crace Calvert.
Treating and preparing certain colouring matters } to be used in dyeing and printing - - - - }	13,662	12th June 1851	{ John Emanuel Lightfoot. James Higgin.
Preparation of dye-woods - - - - -	13,673	24th June 1851	John Brazil.
Producing or obtaining printing dyes and other substances used in printing.	13,723	21st Aug. 1851	James Robertson.
Extracting the colouring properties of madder; rendering useful the water employed in such processes.	13,733	4th Sept. 1851	Dominique Julian.
Extraction and preparation of colouring, tanning, and saccharine matters from vegetable substances; apparatus employed therein.	13,745	11th Sept. 1851	William Jean Jules Varillat.
Preparation of madder-roots and ground madder; also munjeet in the root and stem.	14,072	17th April 1852	Clemence Augustus Kurtz.
Production of a liquid extract from madder, and its preparation for dyeing and printing purposes; treatment of spent madder, garancine, or garancaux, or other preparations of madder, to render them available for this purpose.	14,079	20th April 1852	William Maddick.
[For grinding Dye-woods, see "GRINDING AND PULVERIZING."]			

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>E.</b>			
<b>EARTHENWARE AND PORCELAIN MANUFACTURE.</b>			
<b>I.—Preparing Materials; also making Compositions.</b>			
Composition or mixture (without clay) for making white ware, formed and moulded in a new method - - - - -	448	13th June 1722	{ Richard Holt. Samuel London.
Engine for working and preparing flint stones for making white pots.	487	5th Nov. 1726	Thomas Benson.
Engine for grinding flint for making white wares -	538	14th Jan. 1732	Thomas Benson.
Composition of various minerals, earth, clay, and other earthy substances mixed together, for making a ware of a chocolate colour, striped with white outside, and inside resembling brown china-ware, and glazed with salt.	541	24th May 1733	Ralph Shawe.
Manufacturing a material for making ware equal to porcelain - - - - -	610	6th Dec. 1744	{ Edward Heylin. Thomas Frye.
Composition made of earth and other materials, and means of manufacturing the same into basins and other vessels, which basins so manufactured have the power of filtering water and other liquids.	1778	16th Oct. 1790	Johanna Hempel.
Substance for making pottery - - - - -	3269	29th Sept. 1809	John White.
Application of earths and other materials to useful purposes.	3727	31st July 1813	Joseph Hamilton.
Preparing materials for making pottery-ware - -	4468	2nd June 1820	John Hague.
Preparation of a certain composition, and its application to making dies, moulds, or matrices, smooth surfaces, and various other useful articles [of earthenware].	5195	21st June 1825	Phillip Brookes.
Dissolving silicious matter and compounds of silica.	7283	17th Jan. 1837	Arthur Dunn.
Machinery for mixing, compounding, and moulding clay and other substances.	8267	12th Nov. 1839	James White.
Combination of materials for making pottery - -	8945	29th April 1841	Joseph Gibbs.
Combining clay with other substances for producing "ceramic paste," for moulding into various forms; its application to various purposes.	9587	14th Jan. 1843	Pierre Armand le Comte de Fontaine-moreau.
Machine for crushing or grinding [sandstone, clays, &c.].	9998	28th Dec. 1843	George Benjamin Thorneycroft.
Manufacture of earthenware pastes and vitreous bodies; composition and material for the same, with modes of combination - - - - -	10,968	20th Nov. 1845	{ George Skinner. George Whalley.
Construction and operation of parts of flint-grinding and other mills.	11,005	15th Dec. 1845	Thomas Findler.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [moulding plastic substances].	11,149	25th March 1846	Charles Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>EARTHENWARE, &amp;c.—continued.</b>			
Preparing materials used in manufacturing earthenware and china.	11,313	23rd July 1846	George Henry Fourdrinier.
Machinery for the preparation of clays and other materials.	12,465	8th Feb. 1849	William Tooth.
Method of preparing plastic materials for manufacturing purposes [ <i>by hydrostatic pressure</i> ]	12,619	24th May 1849	{ Thomas Goodfellow. George Goodfellow.
<b>II.—Making and burning (also Garden-pots, Crucibles, &amp;c.)</b>			
Making stone pots, stone jugs, and stone bottles	35	24th Oct. 1626	{ Thomas Rous. Abraham Cullin.
Making and drying stone jugs, bottles, melting-pots for goldsmiths, and other earthen commodities, by means of sea-coal	73	17th Feb. 1635	{ David Ramsey. Michael Arnold. John Ayliffe.
Manufacture of transparent earthenware, as porcelain, china, and Persian ware; also Cologne or stone ware.	164	23rd April 1672	John Dwight.
Making porcelain and other earthenware in the same way as practised in Holland.	191	27th Oct. 1676	John Ariens Van Hamme.
Manufacturing earthenwares, as white gorges, marbled porcelain vessels, statues, and figures, and fine stone gorges and vessels; also transparent porcelain and opaque red and dark coloured porcelain or china and Persian wares, and Cologne or stone wares.	234	12th June 1684	John Dwight.
Manufacture of earthenware from a peculiar kind of clay; also engines and tools used in the said manufacture.	452	17th Oct. 1722	Thomas Billin.
Making red marble stone-ware with mineral earth, capable of receiving a gloss to imitate ruby.	510	9th May 1729	Samuel Bell.
Making a ware to imitate china or porcelain	649	17th Nov. 1749	Thomas Frye.
White crucibles for melting metals and salts	767	25th Jan. 1762	William White.
Turning ovals in English china and all other earthenware.	821	5th Dec. 1764	Joseph Spackman.
Making porcelain-ware	849	10th June 1766	Count de Lauraguais.
Making porcelain from moorstone, growan, and growan clay.	898	17th March 1768	William Cookworthy.
Plates and dishes for table service	1584	23rd Jan. 1787	Isaac Whitehouse.
Making earthenware	2137	3rd Oct. 1796	Ralph Wedgwood.
Manufacturing porcelain and earthenware	2367	9th Jan. 1800	{ William Turner. John Turner.
Manufacturing pottery-ware in general, and discharging the moulds used therein.	2368	20th Jan. 1800	Isaac Sanford.
Machinery for making earthenware	2986	6th Nov. 1806	Robert Vazie.
Manufacture of earthenware	3009	7th Feb. 1807	James Spershott.
Method of manufacturing pottery-ware	3457	14th June 1811	Richard Waters.
Machinery for delivering pottery-ware from moulds	3473	7th Aug. 1811	Thomas Gilbert.
Applying well-known principles in the construction and formation of earthenwares.	3623	16th Dec. 1812	Joseph Hamilton.
Machines for making earthenware	3685	28th April 1813	Joseph Hamilton.
Making English porcelain	3724	23rd July 1813	Charles James Mason.
Burning stone-ware and brown-ware in kilns or ovens.	4871	22nd Nov. 1823	Joseph Bourne.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>EARTHENWARE, &amp;c.—continued.</b>			
Combination of materials for the manufacture of crucibles and melting pots.	6422	11th May 1833	Thomas Spinney.
Earthenware tile, slab, or plate - - - -	7433	14th Sept. 1837	{ Richard Davies. Robert Chrisop Wilson.
Porcelain - - - - -	8124	22nd June 1839	{ Wilton George Turner. Herbert Minton.
Garden-pots - - - - -	8254	2nd Nov. 1839	John Cutten.
Fabrication of china and earthenware; machinery applicable thereto.	8295	4th Dec. 1839	Henry Trew hitt.
Moulds used in the manufacture of earthenware, porcelain, and other similar substances, whereby they are rendered more durable.	8338	11th Jan. 1840	John Ridgway.
Manufacture of china and earthenware; apparatus or machinery applicable thereto - - - -	8339	11th Jan. 1840	{ John Ridgway. George Wall.
Preparing bats of earthenware and porcelain clays; forming them into articles of earthenware and porcelain; machinery applicable thereto - -	8340	11th Jan. 1840	{ John Ridgway. George Wall.
Machinery for making pottery; method of burning the same.	8945	29th April 1841	Joseph Gibbs.
Manufacture of garden-pots - - - - -	9518	15th Nov. 1842	Robert Brown.
Manufacture of porcelain, china, pottery, and earthenware.	9757	3rd June 1843	William Brown.
Applying heat from various combustibles to manufacturing and other purposes [ <i>manufacturing pottery</i> ].	9784	15th June 1843	George Robins Booth.
Pottery - - - - -	9889	5th Oct. 1843	Richard Boote.
Process of manufacturing earthenware, china, and other substances; machinery applicable to such manufacture.	9901	5th Oct. 1843	George Wall, junior.
Construction of pots or vessels used in the manufacture of zinc.	9912	18th Oct. 1843	James Graham.
Manufacturing, burning, and firing pottery and earthenware.	10,020	20th Jan. 1844	William Basford.
Manufacture of pottery or earthenware; tools, instruments, or apparatus employed therein;—partly applicable to other purposes [ <i>moulding</i> ].	11,488	14th Dec. 1846	Charles Ford.
Manufacture of paste-boxes and other similar articles in china, earthenware, or other plastic materials.	11,912	21st Oct. 1847	John Ridgway.
Manufacturing articles composed of earthenware and china.	12,008	31st Dec. 1847	Felix Edward Pratt.
Machinery partly applicable to the manufacture of hollow earthenware.	12,115	10th April 1848	Thomas Spencer.
Manufacture of earthenware articles - - - -	12,465	8th Feb. 1849	William Tooth.
Manufacture of earthenware - - - - -	12,599	3rd May 1849	Thomas Wentworth Buller.
Manufacture of ornamental articles of earthenware [ <i>ornamental bricks</i> ].	13,288	17th Oct. 1850	James Henry Baddeley.
Manufacture of china, porcelain, and earthenware -	13,763	2nd Oct. 1851	William Hodge.
Manufacture, preparation, and combination of materials or substances for production of fuel, and for other purposes to which natural coal can be applied [ <i>by moulding, after carbonizing and pulverizing, for the manufacture of articles usually made of earthenware materials</i> ].	13,911	24th Jan. 1852	William Pidding.
Baking pottery or earthenware - - - - -	14,315	13th July 1852	Joseph Baron Palur.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>EARTHENWARE, &amp;c.—continued.</b>			
<b>III.—Glazing, painting, gilding, printing, and ornamenting.</b>			
Staining, spotting, veining and clouding on earthenware, to imitate marble, porphyry and other stones, and tortoise shell - - - - -	401	28th Jan. 1724	{ Robert Redrich. Thomas Jones.
Ornamenting earthenware and porcelain-ware by an encaustic gold bronze, together with the peculiar encaustic painting, in various colours, in imitation of Etruscan and Roman earthenware.	939	16th Nov. 1769	Josiah Wedgwood.
Glazing earthenware - - - - -	1374	31st May 1783	Joseph Cartledge.
Glazing earthenware - - - - -	1418	5th Feb. 1784	Joseph Cartledge.
Ornamenting china and earthenware with foil stones, Bristol stones, paste, and all sorts of pinched glass, sapped glass, and every other stone, glass, and composition used in or applicable to the jewelry trade.	1552	5th Aug. 1786	John Skidmore.
A preparation or substitute for white-lead, red-lead, calcined lead, or other similar preparation of lead, for glazing and enamelling earthenwares, porcelain and china-wares; also useful in the making of glass and enamel.	2117	20th June 1796	James Keeling.
Colouring and glazing materials in kilns, ovens, or furnaces.	3341	22nd May 1810	William Docksey.
Depositing metals in pottery-ware, to supersede inlaying.	4247	16th April 1818	Robert Clayton.
Ornamenting china and certain other compositions,—"lithophanic, translucent, or opaque china."	5626	13th March 1828	Robert Griffith Jones.
Applying impressions from engravings, to earthenware, porcelain, and china, and other similar substances - - - - -	6162	17th Sept. 1831	{ John Potts. Richard Oliver. William Wainwright Potts.
Ornamenting china and earthenware - - - - -	6817	14th April 1835	Goodwin Embrey.
Producing patterns in one or more colours, to be transferred to earthenware, porcelain, and china.	6939	3rd Dec. 1835	William Wainwright Potts.
Printing china, porcelain, earthenware, and other similar ware.	8278	21st Nov. 1839	Pierre Auguste Ducote.
Process in the application and laying on of the substances used in the printing, colouring, tinting, and ornamenting of china, porcelain, earthen, and other similar wares, whereby such wares may be ornamented with various devices, and a variety of colours painted, shaded, mixed, and blended together in the same design, and burnt into the substance of the wares by a single process in the enamelling kiln.	8319	16th Dec. 1839	John Wood.
Printing china and pottery-ware - - - - -	8987	12th June 1841	Edward Palmer.
Composition for cutting, grinding, and polishing porcelain.	9337	30th April 1842	Henry Barclay.
Ornamenting and colouring earthenware and porcelain.	9424	23rd July 1842	Charles Robert Ayers.
Producing patterns upon earthenware and porcelain.	10,675	22nd May 1845	Charles Joseph Hullmandel.
Manufacture of earthenware pastes and vitreous bodies; composition and material for the same, with modes of combination [glazing earthenware and pottery] - - - - -	10,968	20th Nov. 1845	{ George Skinner. George Whalley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>EARTHENWARE, &amp;c.—continued.</b>			
Decorating articles of earthenware and china - -	11,973	20th Nov. 1847	Thomas Walker.
Ornamenting china and earthenware - - -	12,097	14th March 1848	{ Frederick William Michael Collins. Alfred Reynolds.
Ornamenting and decorating articles of china, earthenware, and other ceramic manufactures [with various kinds of metal, by a galvanic battery].	14,080	20th April 1852	John Ridgway.
<b>IV.—Ovens and Kilns for Earthenware.</b>			
Constructing, erecting, and making ovens, kilns, and fireplaces so as to effect a saving of fuel in the firing, hardening, and baking of porcelain, china-ware, and earthenware - - -	2127	5th July 1796	{ Valentine Close. James Keeling.
Building and constructing ovens and kilns for the firing and burning of china, earthenware, bricks, tiles, and other earths and compositions, whereby a very material saving will be made in the consumption of fuel, and other important benefits will arise to the manufactures; particularly by a more equal diffusion of heat, and by a more regular and certain manner of firing such wares and articles over and above the kilns and ovens now or hitherto made use of.	2140	3rd Oct. 1796	John Pepper.
Burning stone-ware and brown-ware in kilns or ovens, by carrying up the heat and flame from the furnace or fire below to the middle and upper parts of the kiln or oven, either by means of flues or chimneys in the sides thereof, or by moveable pipes or conductors to be placed within such kilns or ovens; increasing the heat in kilns or ovens, by the construction of additional furnaces or fires at the sides thereof, to communicate with the centre or upper parts of such kilns or ovens; conveying the flame and heat of one kiln or more into another or others, by means of chimneys or flues, and thus permitting the draught and smoke of several kilns or ovens to escape through the chimneys of a central kiln or oven of great elevation, whereby the degree of heat is increased in the several kilns or ovens, and the quantity of smoke diminished.	4871	22nd Nov. 1823	Joseph Bourne.
Combination of materials for making bricks, tiles, pottery and other useful articles, and a machine or machinery for making the same, also a new mode or process of burning the same; which machine or machinery, and mode or process of burning, are also applicable to the making and burning of other description of bricks, tiles, and pottery [a circular kiln].	8945	29th April 1841	Joseph Gibbs.
Building and constructing ovens used by potters and china-manufacturers in the firing of their wares - - -	9161	20th Nov. 1841	{ John Venables. John Tunnicliff.
Constructing the interior arrangement of ovens used by manufacturers of china and earthenware	10,687	24th May 1845	{ Jeremiah Simpson. Joshua Seddon.
Constructing kilns or ovens used by potters and manufacturers of china or earthenware.	11,107	25th Feb. 1846	John Maddock.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>EARTHENWARE &amp;c.—continued.</b>			
Kiln or oven for firing porcelain and other similar ware.	11,824	29th July 1847	Alfred Vincent Newton.
Construction of kilns for burning stone-ware and brown-ware.	11,831	4th Aug. 1847	Joseph Bourne.
Constructing ovens or kilns for burning or firing pottery or earthenware.	12,803	4th Nov. 1851	Robert Beswick.
Baking pottery or earthenware [ <i>kilns</i> ] - -	14,218	13th July 1852	James Baron Palm.
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<b>ELECTRICITY, GALVANISM, MAGNETISM.</b>			
<b>Production, Transmission, and Application— Electric Machines and Galvanic Batteries.</b>			
Electrical machine, or a method of insulating such machine, and constructing the conductors so that either shocks or sparks may be received from them ("Insulated medical electrical machine.")	1318	5th Feb. 1782	Edward Nairne.
Applying electrical currents or electricity, either frictional, atmospheric, voltaic, or electro-magnetic.	8958	14th May 1841	Henry Pinkus.
Producing, regulating, and applying electric currents.	9022	7th July 1841	Charles Wheatstone.
Production or development of electricity, and application of electricity for obtaining light and motion.	9053	21st Aug. 1841	Frederick De Moleyns.
Application of electricity to control railway engines and carriages, mark time, give signals, and print intelligence at distant places - -	9204	21st Dec. 1841	{ Thomas Wright. Alexander Bain.
Apparatus for transmitting electricity between distant places.	9465	8th Sept. 1842	William Fothergill Cooke.
Electrical apparatus for medical purposes; application thereof to the same purposes.	9572	28th Dec. 1842	Alonzo Grandison Hull.
Production and regulation of electric currents -	9745	27th May 1843	Alexander Bain.
Construction of, and means of manufacturing, } apparatus for conducting electricity - -	10,799	4th Aug. 1845	{ William Young. Archibald McNair.
Production of magnetic electricity - - -	11,188	30th April 1846	Edward Augustin King.
Apparatus for transmitting electricity between distant places.	11,426	27th Oct. 1846	Henry Mapple.
Mode of securing the passage of electricity for purposes of communicating intelligence.	12,076	28th Feb. 1848	John Craft Roberts.
Construction of galvanic batteries; formation of magnets; employing galvanic batteries for obtaining chemical products.	12,212	12th July 1848	William Edwards Staite.
Apparatus for lighting by electricity;—partly applicable to other purposes in electricity.	12,219	20th July 1848	Chevalier Alexandre Edouard Le Molt.
Constructing and fixing artificial teeth and gums; supplying deficiencies of the mouth [ <i>application of electro-gilding for fixing artificial teeth</i> ].	12,241	15th Aug. 1848	Edwin Thomas Truman.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ELECTRICITY, &amp;c.—continued.</b>			
Use and application of electro-magnetism - - -	12,295	26th Oct. 1848	Soren Hjorth.
Working machinery by electricity - - -	12,567	16th April 1849	Charles Shepherd.
Electric batteries - - - - -	12,697	4th July 1849	{ Robert Weare. William Peter Pigott.
Electric and galvanic instruments and apparatus, and their application to lighting and motive purposes - - - - -	12,772	20th Sept. 1849	{ William Edward Staite. William Petrie.
Applying galvanism and magnetism to curative and sanatory purposes.	12,847	17th Nov. 1849	Charles Ludovic Augustus Meinig.
Galvanic batteries; electro-magnetic and magneto-electric machines.	12,889	15th Dec. 1849	Isaac Lewis Pulvermacher.
Production of gas for lighting, heating, and motive-power purposes [ <i>magneto-electrical apparatus for decomposing water and other fluids, for the production of gas</i> ].	13,128	12th June 1850	Alfred Vincent Newton.
Galvanic batteries - - - - -	13,142	19th June 1850	Robert Weare.
Application of magnetic power for moving and stopping carriages; giving adherence to wheels on rails; also transmitting motion.	13,289	3rd Oct. 1850	Jean Pierre Paul Amberger.
Electro-magnetic apparatus, suitable for the production of motive-power, heat, and light.	13,302	24th Oct. 1850	Edward Clarence Shepard.
Application of electric currents for deflecting magnets or producing electro-magnets.	13,352	16th Nov. 1850	Thomas Allan.
Electro-magnetic and magnet-electric apparatus -	13,538	28th Feb. 1851	William Millward.
Obtaining and applying motive-power [ <i>magnets and conductors for conveying currents of electricity</i> ].	13,613	3rd May 1851	John James Greenhough.
Means of generating galvanic electricity; decomposing water or various electrolytes; collecting hydrogen and burning it [ <i>constructing galvanic batteries</i> ].	13,645	29th May 1851	Henry W. Adams.
Applying electro-chemical action to manufacturing purposes.	13,845	8th Dec. 1851	Richard Archibald Brooman.
Galvano-electric, magneto-electric, and electro-magnetic apparatus; application thereof to lighting, telegraphic, and motive purposes.	13,933	29th Jan. 1852	Isaac Lewis Pulvermacher.
Galvanic batteries, and obtaining chemical products therefrom.	13,963	10th Feb. 1852	Martyn John Roberts.
Construction of railways [ <i>applying an electro-galvanic current to the rails of railways, for preventing the metal oxydizing</i> ].	14,018	8th March 1852	Paul Rapsey Hodge.
Producing and applying electricity; apparatus used therein [ <i>electro-magnetic engine</i> ].	14,180	24th June 1852	Thomas Allan.
Electro-magnetic apparatus, suitable for the production of motive-power, heat, and light.	14,187	6th July 1852	Edward Clarence Shepard.
Production of electric currents in obtaining light, motion, and chemical products and effects by electricity;—parts of which improvements are also applicable to the manufacture of acids and to the reduction of ores.	14,198	6th July 1852	Martyn John Roberts.
Galvanic batteries - - - - -	14,257	12th Aug. 1852	Robert Weare.
Obtaining and applying electric currents; apparatus employed therein;—partly applicable to the refining of certain metals, and to the production of metallic solutions and of certain acids.	14,346	13th Nov. 1852	William Petrie.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>EMBOSSING, GILDING, AND DAMASKING; ALSO STAMPING, COINING, AND INLAYING.</b>			
<b>I.—Embossing; making Stamps, Plates, and other Surfaces for embossing, stamping, &amp;c.</b>			
Instrument to stamp or mark with, which may be composed of various colours, so as not to be counterfeited or forged, for the better securing the property of His Majesty's subjects from imposition.	1575	9th Dec. 1786	Solomon Henry.
Method of working a stamp by a steam-engine, or by water or horse power.	3758	23rd Nov. 1813	Edward Biggs.
Method of stamping - - - -	4898	7th Feb. 1824	Sir William Congreve, Bart.
Preparation of a certain composition, and its application to making dies, moulds or matrices, smooth surfaces, and various other useful articles.	5195	21st June 1825	Phillip Brookes.
Means of producing figured surfaces, sunk and in relief, and of printing therefrom; also of moulding, stamping, and embossing.	7553	25th Jan. 1838	Charles Hancock.
Cylinders, blocks, and plates used in printing and embossing.	8502	12th May 1840	Rice Harris.
Producing surfaces to be used for printing, embossing, or impressing.	8743	17th Dec. 1840	William Tudor Mabley.
Producing printing and embossing surfaces -	9227	15th Jan. 1842.	Edward Palmer.
Making metallic dies and plates for stamping, pressing, or embossing.	9233	27th Jan. 1842	John James Baggaly.
Manufacture of blocks or surfaces for surface-printing, stamping, embossing and moulding.	10,377	2nd Nov. 1844	Thomas Brown Jordan.
Obtaining and applying motive-power [ <i>for working stamping machines</i> ] - - - -	11,077	11th Feb. 1846	{ Thomas Clarke. Mark Freeman. John Varley.
Producing figured surfaces, sunk and in relief [ <i>in metal</i> ].	11,416	15th Oct. 1846	Arthur Milward.
Manufacture of printed, patterned, ornamented, coloured, embossed, and moulded surfaces.	11,446	12th Nov. 1846	George William Jacob.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of embossed articles</i> ]	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Construction and arrangement of machinery to be used in cutting, stamping, and pressing.	11,540	21st Jan. 1847	Thomas Deakin.
Stamping, marking, cutting, embossing, or printing	11,799	17th July 1847	Robert William Sievier.
Manufacture of plates or surfaces for printing or embossing.	12,022	13th Jan. 1848	Sydney Edwards Morse.
Apparatus for printing, embossing, pressing, and perforating.	12,653	7th June 1849	Henry Knight.
<b>II.—Embossing, gilding, impressing, and damasking Cloths, Leather, and Paper.</b>			
Removing the outside from ormer-shells, and covering cloth, taffety, wood, and other stuffs with the same - - - -	101	9th Jan. 1637	{ Edmond Gregory. Lyminge Dickenson.
Beautifying cloth, serges, stuffs, and other manufactures, by impressing indented lines resembling the wale of tabby, thereby watering, damasking, and flowering the same.	241	2nd Oct. 1684	Joshua Gaskins.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>EMBOSSING, &amp;c.—continued.</b>			
Producing colours in cloths of woollen or silk, simple or compound, in figures, flowers, or other designs.	343	2nd Aug. 1695	Ralph Lane.
Damasking, striking, and fixing colours into leather and all sorts of stuffs, cloths, and velvets and hair, on both sides - - - - -	346	14th Dec. 1695	{ Thomas Matthews. Thomas Ferrera.
Making, marbling, veining, spotting, staining, clouding, and damasking linen, silks, and canvas	461	28th Jan. 1724	{ Robert Redrich. Thomas Jones.
Art or mystery of embossing, printing, or staining callimancoes and other woollen goods.	692	3rd July 1754	George Bowser.
Art or method of inlaying scagliola or plaster, upon marble and metals, to imitate flowers, birds, &c.	976	28th Dec. 1770	John Richter.
Flowering and figuring velvets, velverets, cottons, silks, satins, corduroys, jeans, dimities, or other piece-goods, after the same are made in the piece.	1093	28th Dec. 1774	Charles Chadwick.
Art of stamping and painting silk tiffany, gauze, and other goods, in imitation of lace.	1221	29th April 1779	Michael Biaggini.
Gilding and ornamenting goods of British manufacture, made of cotton, or linen and cotton; also goods made of wool, cotton and wool, or linen and wool, with gold and silver leaf, and with yellow or white Dutch metal leaf - - -	1633	5th Dec. 1787	{ Henry Mather. George Farrand.
Machines for stamping and striping woollen cloths, kerseymeres, silk velvets, cotton velvets, velveteens, and thicksets.	1941	25th March 1793	Rowland Jones.
Method of preparing linen and cotton cloth, with a paste to give it a smooth surface and pliable quality, for receiving a coat of water-size colours, and afterwards printing ornaments on the same, in silver and gold or colours, in patterns to resemble damask, lace, and other silk stuffs, for hangings and other furniture for rooms.	1954	30th April 1793	Francis Frederick Eckhardt.
Method of figuring or ornamenting, by means of pressure, embossment or otherwise, cloths or stuffs of woollen, linen, cotton, velvet, silk, or satin, or any mixture of these materials.	2329	16th July 1799	Paul Newman.
Machine on an improved construction, for polishing, embossing, and graining leather, and for extending and flattening the same.	3158	30th July 1808	Luke Hebert.
Machinery for finishing piece-goods or other flexible articles or materials of the like description, by glazing, burnishing, graining, or making impressions on the surface thereof - - -	3455	11th June 1811	{ William Dixon. Bryan Donkin.
Method of ornamenting oilcloths for tables and floors - - - - -	3593	6th Aug. 1812	{ Thomas Hubball. William Robert Wale King.
Method of figuring or ornamenting various goods manufactured from silk, cotton, flax, or other thread or yarn.	5144	31st March 1825	John Heathcoat.
Gilding or silvering certain woven fabrics in burnished or dead burnished or matted gold and silver, for borderings and other purposes.	5768	5th Feb. 1829	John Burgis.
Manufacturing or preparing embossed paper-hangings.	6663	15th Aug. 1834	Thomas De la Rue.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>EMBOSSING, &amp;c.—continued.</b>			
Mode of embossing and printing at one and the same time, by means of a cylinder or roller, on goods or fabrics made of or from cotton, silk, flax, hemp, and wool, or any one or more of those materials, or on paper.	6927	10th Nov. 1835	Thomas Greig.
Embossing or impressing the surfaces of leather and other substances;—applicable to various purposes.	7483	21st Nov. 1837	Christopher Nickels.
Preparing, pressing, and embossing the surface of leather.	7589	10th March 1838	Claude Schroth.
Method of making or manufacturing the tools or apparatus employed in the process of pressing or embossing the surface of leather or other substances.	7725	9th July 1838	Claude Schroth.
Process, manner, or method of embossing or producing raised figures, designs or patterns on leather or such like materials; means used for effecting the same; making or forming certain tools or apparatus used therein.	8132	26th June 1839	Claude Schroth.
Producing ornamental raised surfaces on paper	8222	19th Sept. 1839	John Wertheimer.
Manufacturing, preparing and engraving, cylinders, rollers or other surfaces for printing or embossing calicoes or other fabrics.	8610	27th Aug. 1840	Joseph Lockett.
Impressing and embossing patterns on silk, cotton, and other woven or felted fabrics.	9325	21st April 1842	Kent Kingdon.
Producing damask and other surfaces on leather and other fibrous substances and fabrics.	9448	18th Aug. 1842	George John Newbery.
Manufacture of embossed or pressed paper, calico, leather, and other fabrics and articles.	10,935	11th Nov. 1845	Charles Frederick Bielefeld.
Graining or chequering Russia and other leathers	11,495	15th Dec. 1846	Mark Bingley.
Method of embossing, raising, and forming ornamental figures and designs on certain intertwined textile fabrics.	11,629	19th March 1847	Peter Britus Coxon.
Construction of machines for glazing, embossing, and finishing woven fabrics and paper	12,956	31st Jan. 1850	{ Thomas Bury. Nathan Ramsden.
Production of ornamental fabrics [attaching to fabrics by adhesive cement certain figures or devices cut from other fabrics].	12,961	7th Feb. 1850	Thomas Auchterlonie.
Dressing, embossing, and ornamenting leather	13,589	15th April 1851	Frederick William East.
Preparation of materials or fabrics suitable for ornamenting furniture and other articles [covering with metallic leaf or powder membranous materials, either alone or in combination with textile fabrics].	13,597	17th April 1851	Frederick Puckeridge.
Producing corrugated surfaces on leather	13,646	29th May 1851	John Pegg.
Producing ornamental surfaces on woven fabrics [calendering, embossing or printing, and producing metallic or bronzed surfaces].	13,819	19th Nov. 1851	Henry Bessemer.
<b>III.—Embossing and inlaying Wood, Ivory, and Metals.</b>			
Raising, by a stamp and press, scale-pans, sauce-pans, warming-pans, basins, plate-covers, kettles, ladles, and various other things, out of silver, copper, and other metals.	935	23th Aug. 1769	Richard Ford.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>EMBOSSING, &amp;c.—continued.</b>			
Stamping upon plated metal, gilt and other metals, hat and cloak pins, various decorations or devices for furniture and lock furniture - - -	1165	1st Aug. 1777	{ John Marston. Samuel Bellamy.
Method of affixing impressions from dies upon gold, silver, or metals, by means of rolling cylinders on which such dies are engraved, especially for the benefit of the buckle, button, and toy manufactories.	1242	26th Dec. 1779	William Bell.
Depositing or inserting certain metals, or a mixture of metals, in wood, ivory, bone, horn, paper, and pottery-ware, to supersede inlaying.	4247	16th April 1818	Robert Clayton.
Pressing and embossing wood and other materials, in order to apply the same to various useful purposes.	8768	10th June 1843	Thomas Wells Ingram.
Manufacture of gutta-percha, and its application, alone and in combination with other substances [inlaying or veneering wood with gutta-percha].	11,208	15th May 1846	Charles Hancock.
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<b>IV.—Making Medals; coining Money.</b>			
Method of making medals out of solid silver or other metal.	1309	29th Dec. 1781	William Playfair.
Method of making and using dies and presses for coining money, stamping medals, and other useful purposes.	4400	11th Oct. 1819	Jacob Perkins.
Construction of medals, tokens, and coins - - -	5422	9th Nov. 1826	Edward Thomason.
Machinery applicable to the imitation of medals, sculpture, and other works of art executed in relief.	6254	9th April 1832	John Bate.
Manufacturing coins and medals - - - -	9053	30th April 1839	Julian Skrine.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ENGRAVING, ETCHING, AND CHASING.</b>			
Making, describing, carving, graving, and printing maps of London, Westminster, Bristol, Norwich, Canterbury, Bath, Oxford, Cambridge, and Windsor	1	2nd March 1617	{ Aaron Rapburne. Roger Burges.
Drawing, engraving, and printing pictures and representations of His Majesty, on paper, parchment, and other suitable materials.	2	1st May 1617	Nicholas Hillyard.
Method of impressing in imitation of engraving, upon varnish laid on copper, iron, paper, and other bodies, to be used in coach-panels, snuff-boxes, and merchandise and devices.	737	10th Feb. 1759	Stephen Bedford.
Chasing in gold, silver, and other metals, coffin furniture, ornaments for coaches, chariots, sedans, and other carriages, cabinet-work, and domestic furniture.	920	7th March 1769	John Pickering.
Chasing or embossing in lead all sorts of girandoles, frames for pier-glasses, tablets, friezes, and brackets for chimney-pieces and rooms, and of hardening the same, so that such articles are rendered as durable as if made of copper or other metals.	1068	14th April 1774	William Storer.
Working an aquarello ground, to be used on copper plates engraved for printing linen, cotton, muslins, and calicoes, to produce various tints.	1137	19th Nov. 1776	Henry Hawkins.
Method of making punches for impressing on copper cuts or other printing plates, and on dies, precious metals, or other substances, certain marks which cannot be counterfeited.	1766	28th July 1790	Robert Barclay.
Manufacturing and engraving copper plates for printing policies of insurance.	2414	17th June 1800	William Weller.
System of engraving	2797	19th Dec. 1804	Stephen Pasquier.
Engraving maps of counties, also charts or designs, music, and mathematical diagrams or figures, on wood, metal or other substance, either for books, newspapers, or other papers.	3907	26th Feb. 1810	Peter Stuart.
Machinery applicable to engraving; transferring engraved or other work from the surface of one piece of metal to that of another [ <i>transferring difficult engravings for the production of bank-notes</i> ].	4400	11th Oct. 1819	Jacob Perkins.
Engraving and etching metal rollers used for printing woollen, cotton, linen, paper, cloth, silk, and other substances.	4525	9th Jan. 1821	John Leigh Bradbury.
Process for promoting the action of acetic acid on metallic bodies.	5377	13th June 1826	John Ham.
Engraving and etching on cylindrical surfaces, for printing and other purposes.	6587	31st March 1834	Hooton Deverill.
Apparatus for engraving on copper and other substances.	6716	15th Nov. 1834	Edward Galley Giles.
Producing engravings, etchings, or reliefs on metallic plates; apparatus used in the same	6830	13th May 1835	{ Alphonse Humbert. Jean François Valois.
Means of producing figured surfaces, sunk and in relief [ <i>etching and preparing metal plates</i> ].	7552	25th Jan. 1838	Charles Hancock.
Preparing certain surfaces for being corroded with acids, to produce patterns and designs for certain kinds of printing and transparencies.	7605	26th March 1838	Charles Hullmandel.
Engraving by machinery	8344	18th Jan. 1840	Arthur Eldred Walker.
Engraving	8434	17th March 1840	Isham Baggs.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ENGRAVING, &amp;c. —continued.</b>			
Engraving cylinders, rollers or other surfaces, for printing or embossing calicoes and other fabrics.	8810	27th Aug. 1840	Joseph Lockett.
Process of engraving on metals by means of voltaic electricity - - - - - }	8858	7th Oct. 1840	{ Thomas Spencer. John Wilson.
Machinery for etching designs on cylindrical surfaces.	8800	19th Jan. 1841	John Barber.
Line engraving, and producing impressions therefrom.	9003	23rd June 1841	John Henry Le Keux.
Engraving stone, metals, and other substances -	9049	21st Aug. 1841	{ John Harvig. Felix Moreau.
Apparatus for preparing metal cylinders, to be engraved or turned for use in printing calicoes or other fabrics.	10,432	12th Dec. 1844	Joseph Lockett.
Machinery or apparatus for engraving - - -	10,523	17th Feb. 1845	Thomas Brown Jordan.
Engraving in relief - - - - -	11,122	11th March 1846	Godfrey Woone.
Machine for engraving from solid bodies or subjects in relief.	11,789	10th July 1847	Samuel Stokes.
Preparing and engraving plates adapted to printing cotton, stuffs, paper, and other substances.	11,882	7th Oct. 1847	Pierre Auguste Bapaume.
Construction of cylinders adapted for engraving -	12,248	21st Aug. 1848	Isaac Taylor.
Producing pressure for various purposes [ <i>engraving on wood or other surfaces</i> ].	12,589	16th April 1849	John Ruthven.
Engraving copper rollers and other metallic bodies -	12,942	26th Jan. 1850	John Dalton.
Manufacture of mills and dies for engravers, by application of materials not hitherto used.	13,773	16th Oct. 1851	William Onions.
Production of surfaces for printing or ornamenting fabrics.	14,102	29th April 1852	John Cumming.
Preparing and engraving rollers to be used for printing woven and other fabrics.	14,145	29th May 1852	Joseph Lees.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>EXTRACTS, ESSENCES, ESSENTIAL OILS, SPIRITS, AND SOLVENTS.</b>			
Making tincture of saffron and essence of roses, gilliflowers and the like.	104	19th April 1637	Amye Everard.
Making a liquor and spirit of sulphur with brimstone and saltpetre - - - - - }	644	23rd June 1749	{ Joshua Ward. John White.
Producing an essence from which fine spruce beer can be made - - - - - }	1022	11th Aug. 1772	{ Henry Taylor. Thomas Bridge.
Preparing essences from vegetables - - - - -	1181	17th Feb. 1778	Nehemiah Spires.
Reducing malt and hops into a solid essence or extract, for making beer at sea and in distant climates.	1180	15th April 1778	Robert Thornton.
Dissolving and extracting the virtues and preserving the essential oil of hops, malt, and other vegetables used in brewing, distilling, &c.	2413	13th June 1800	Henry Tickell.
Preparing a colour from malt, for the purpose of colouring spirits, wines, and other liquors.	2625	31st May 1802	Matthew Wood.
Separating insoluble substances from fluids in which the same are suspended.	3831	4th Aug. 1814	Edward Charles Howard.
Compositions and materials to be burned in lamps } [essential oils] - - - - - }	4638	14th Jan. 1822	{ Alexander Gordon. David Gordon.
A new composition of malt and hops [extract] -	5091	10th Feb. 1825	George Augustus Lamb.
Means of extracting spirits and other solvents used in dissolving gums and other articles, for stiffening hats, hat bodies, bonnets, caps, and divers articles of merchandise; converting such spirit (after rectification) into use.	5515	4th July 1827	William Wilson.
Solvent for use in the fine arts [ <i>an essential oil or liquid obtained from the distillation of caoutchouc</i> ].	6466	20th Aug. 1833	William Henry Barnard.
Depriving vegetable juices and fermented and distilled liquids of their acid qualities, colouring matter, and essential oils.	6514	21st Nov. 1833	John Cooper Douglas.
Essence of anchovies - - - - -	7029	14th March 1836	John Masters.
Obtaining concentrated extracts of hops ("Humuline")	8843	15th Feb. 1841	William Edward Newton.
Purifying spirits of turpentine, spirits of tar, and naphtha.	9541	8th Dec. 1842	William Oxley English.
Pyro-hydro-pneumatic apparatus for extracting the soluble portions from vegetable substances.	9623	31st Jan. 1843	Charles Clark.
Apparatus for purifying, clarifying, and refining vegetable extracts.	10,114	19th March 1844	Jules Thiebeauld de la Crouée.
Processes and apparatus for preparing extracts and essences of vegetable and animal substances.	10,285	3rd Aug. 1844	William Edward Staite.
Preparing extracts from certain vegetable substances; apparatus connected therewith;—applicable to other similar purposes.	10,593	7th April 1845	Thomas Jarvis.
Obtaining and preparing extracts from certain vegetable matters; apparatus connected therewith;—applicable to other similar purposes.	10,952	18th Nov. 1845	Henry Dircks.
Separating the fluid and soluble from the solid parts of vegetable substances.	11,057	22nd Jan. 1846	Joseph Cooper.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>EXTRACTS, &amp;c.—continued.</b>			
Improvements partly applicable to purifying and extracting vegetable substances and fluids; machinery to be used for the same.	11,240	12th June 1846	Robert Rettie.
Making extracts from animal and vegetable substances.	11,244	17th June 1846	Robert Reyburn.
Pyro-hydro-pneumatic apparatus for obtaining vegetable extracts.	11,275	29th June 1846	Charles Clark.
Process for preparing certain vegetable extracts, also preserving the aroma of vegetable substances from the atmosphere.	11,588	24th Feb. 1847	William Pidding.
Treating vegetable substances for obtaining extracts therefrom; obtaining such extracts - }	12,072	18th Feb. 1848	{ Edward Duncombe Lines. Samuel Luz Freemont.
Manufacturing or treating solvents of india-rubber and of other gums - - - - }	12,585	26th April 1849	{ George Simpson; Thomas Forster.
Machinery for extracting fluids from animal, vegetable, and mineral substances, and compressing the same.	12,909	29th Dec. 1849	John Read.
Treating peat and other carbonaceous and ligneous matters so as to obtain products therefrom [ <i>manufacture of spirit of sulphur</i> ].	12,990	7th March 1850	William Benson Stones.
Treating fatty, oleaginous, resinous, bituminous, and cerous bodies; manufacture and application of them, and of their components and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [ <i>application of organic acids to the scenting of soaps, candles, and perfumery.</i> ] - - }	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Improvements in part applicable in obtaining volatile liquids.	13,335	12th Nov. 1850	Peter Spence.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>F.</b>			
<b>FARM AND DAIRY PROCESSES AND APPARATUS.—SLAUGHTERING CATTLE.</b>			
<b>I.—Hatching Eggs, rearing Poultry, raising Silk, and making Bee-hives.</b>			
Bee-hives or boxes, placed one on another, with holes in the top, and several entrances backwards and forwards, so that the bees can conveniently and constantly pass in and out, and the necessity of the bees swarming or being destroyed will thus be prevented - - - - -	180	23rd April 1675	{ John Gedde. William Galte. Samuel Nowell.
Raising silk in England - - - - -	420	23rd May 1718	John Apletre.
Hatching and rearing domestic fowls and other birds by artificial heat.	950	9th Jan. 1770	John Champion.
Applying heat for hatching eggs;—applicable to other purposes where heat is required.	8895	22nd March 1841	William Bucknell.
Apparatus for hatching eggs and raising the young	11,102	25th Feb. 1846	James Cantelo.
Apparatus for hatching eggs - - - - -	14,144	29th May 1852	Frederick Miller.
<b>II.—Milking and Churning.</b>			
Barrel-churn ("Imperial barrel-churn") - - -	1186	8th Aug. 1777	John Rastrick.
Butter-churn - - - - -	1904	28th July 1792	Richard March.
Butter-churn - - - - -	1911	18th Oct. 1792	Richard March.
Horizontal turning churn, for churning butter -	2146	8th Nov. 1796	William Raley.
Machine for agitating and separating certain mixtures.	2754	23rd March 1804	Thomas Rowntree.
Machine for churning milk and cream - - -	3040	9th May 1807	James Woods.
Apparatus applicable for churning and other useful purposes.	3851	10th Nov. 1814	William Howard.
Method of and apparatus for extracting milk from cows and other animals.	7045	26th March 1836	William Blurton.
Churn - - - - -	9350	17th May 1842	Thomas Williams.
Churning apparatus - - - - -	9825	6th July 1843	Thomas Masters.
Method of treating unctuous animal matter [ <i>churns for making butter</i> ].	12,647	7th June 1849	Charles James Anthony.
Application of plain or ornamental glass, alone or in combination, to new purposes of construction or manufacture [ <i>making churns</i> ].	13,458	16th Jan.- 1851	Robert Cogan.
Apparatus for milking animals - - - - -	13,498	10th Feb. 1851	William Edward Newton.
Centrifugal apparatus for separating fluid from other matters.	13,517	18th Feb. 1851	Thomas Dickason Rotch.
Surgical instruments [ <i>which, by slightly modifying the construction, are adapted for milking cows</i> ] -	13,674	24th June 1851	{ Richard Edward Hodges. William Brockedon.
Churns - - - - -	13,701	29th July 1851	Peter Robert Drummond.
Machinery for pumping, forcing, and agitating fluids [ <i>churns</i> ].	13,779	17th Oct. 1851	Richard Roberts.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FARM PROCESSES, &amp;c.—continued.</b>			
<b>III.—Slaughtering Cattle.</b>			
Machine for slaughtering hogs, bullocks, and other cattle.	3105	25th Aug. 1803	Joseph Cuff.
Slaughtering animals intended for human food -	7800	12th Dec. 1838	James Carson.
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<b>FABRIERY.—MEDICAL TREATMENT OF ANIMALS.</b>			
<b>I.—Horse-shoes.</b>			
Making horse-shoes - - - - -	1373	24th May 1783	William Playfair.
Manufacture of horse-shoes and other articles formed of metal.	2104	16th April 1796	William Moorcroft.
Artificial frog, to be applied to horses' feet for prevention of contracted hoofs, thrushes, and canker.	2370	1st Feb. 1800	Edward Coleman.
Manufacturing horse-shoes - - - - -	2398	3rd May 1800	William Moorcroft.
Horse-shoes - - - - -	2923	26th March 1806	Bracy Clark.
Construction and application of horse-shoes to prevent diseases to which the feet of horses are subject, especially contraction of the hoof - -	3128	30th April 1808	Edward Coleman.
Horse-boot, for the preservation of sound hoofs, and the restoration of contracted hoofs.	3542	27th Feb. 1812	Francis Purden.
Horse-shoes - - - - -	3805	31st Oct. 1812	John Lewis.
Elastic horse-shoe - - - - -	4025	11th May 1816	Benjamin Rotch.
Shoes for horses - - - - -	4446	15th April 1820	Edward Coleman.
Formation of horse-shoes - - - - -	4548	5th April 1821	Henry Goldfinch.
Manufacture of shoes for horses and other cattle -	4635	9th Jan. 1822	James Harris.
Making malleable cast-iron shoes for draught and riding horses and other animals - - - }	4735	16th Dec. 1822	{ Thomas Barnard. William Dudley.
Horse-shoe, denominated "Bevil-heeled expanding shoe."	4841	11th Sept. 1823	William Woodman.
Construction and manufacture of shoes or substitutes for shoes, for horses and other cattle; applying the same to the feet.	5014	7th Oct. 1824	John Thomas Hodgson.
Construction and application of shoes, without nails, for the feet of horses and other animals.	5610	19th Jan. 1828	William Percivall.
Guards or protections for horses' feet and legs -	5922	20th March 1830	Benjamin Rotch.
Machinery for manufacturing horse-shoes and certain other articles.	6816	14th April 1835	Alexander Stocker.
Machinery for making bar-iron into shoes for horses, also into shapes for various purposes.	6903	8th Oct. 1835	Thomas Jevons.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FARRIERY, &amp;c.—continued.</b>			
Shoes for horses and other animals - - -	7293	31st Jan. 1837	John Springall.
Machinery for making horse-shoes - - -	7354	27th April 1837	Miles Berry.
Manufacture of horse-shoes - - - - -	8358	22nd Jan. 1840	Jules Alphonse Simon De Gournay.
Horse-shoe - - - - -	8782	11th Jan. 1841	Thomas Harris.
Horse-shoes - - - - -	8788	19th Jan. 1841	Thomas Vaux.
Covering streets, roads, and other ways with wood ; also enabling horses to pass safely over them [horse-shoes, with bars, ribs, or projections on that part of the underside which is between the toe and the calk].	9266	25th Feb. 1842	Osborne Reynolds.
Manufacture of horse-shoes - - - - -	9286	7th March 1842	Henry Barron Rodway.
Manufacture of horse-shoes - - - - -	9722	6th May 1843	John Turnbull.
Form and manufacture of horse-shoes - - -	9818	6th July 1843	James Neville.
Manufacture of horse-shoes - - - - -	9881	8th Aug. 1843	James Home.
Machinery for manufacturing shoes for horses and other animals.	10,007	11th Jan. 1844	Laurence Hill.
Form of shoes for horses or other animals, and process of accomplishing the same.	10,581	27th March 1845	Dennis Woodin.
Construction of horse-shoes - - - - -	10,805	9th April 1845	Charles Powell.
Manufacture of horse-shoes [of iron, which is converted into steel by electric currents].	10,820	15th April 1845	Charles Black.
Manufacture of horse-shoes - - - - -	10,917	3rd Nov. 1845	Alfred Watney.
Manufacture of horse-shoes - - - - -	11,131	11th March 1846	Thomas Vaux.
Horse-shoes - - - - -	12,560	3rd April 1849	William Parry.
Manufacture of horse-shoes; apparatus for taking the measurement of horse-shoes or horses' hoofs.	12,900	15th Dec. 1849	Richard Hobson.
<b>II.—Shoeing Horses.</b>			
Shoeing horses - - - - -	3605	31st Oct. 1812	John Lewis.
Shoeing horses - - - - -	3985	29th Feb. 1816	Joseph Manton.
Shoeing, stopping, and treatment of horses' feet -	4827	5th Aug. 1823	Robert Dickinson.
Applying shoes or substitutes for shoes to the feet of horses or cattle.	5014	7th Oct. 1824	John Thomas Hodgson.
Application of shoes, without nails, to the feet of horses and certain other animals.	5810	19th Jan. 1828	William Percivall.
Shoeing horses - - - - -	9833	9th Nov. 1843	Thomas Clarendon.
Applying shoes to horses and other animals - -	10,917	3rd Nov. 1845	Alfred Watney.
Shoeing horses - - - - -	12,560	3rd April 1849	William Parry.
<b>III.—Marking, staining, and training Horses.</b>			
Method of ticketing, marking, and staining horses, to prevent their being stolen.	424	7th Sept. 1719	James Vavasor.
Preparation for staining horses and other animals, so as to make them match in colour; also for preserving cattle from flies and other insects, and for making such marks on animals as cannot be effaced without injury to the said animals.	1060	18th Jan. 1774	Thomas Johnston.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FARRIERY, &amp;c.—continued.</b>			
Rendering horses tractable and docile, capable of standing the firing of ordnance, beating of drums, all kinds of music, also the recoil of small ordnance fired from the saddle, or other causes of disturbance.	1335	1st Aug. 1782	Philip Astley.
<b>IV.—Medical Treatment of Animals.</b>			
Purging and diuretic pills, for the cure of several diseases incident to horses.	941	16th Nov. 1769	William Radley.
Purging-paste for horses and dogs	1387	12th Sept. 1783	Thomas Watson.
Medicine for preventing the rot in sheep, and to check its progress in those already affected, so as to render them capable of being fatted on the herbage of the same land which produced or occasioned such disease.	2014	1st Oct. 1794	Thomas Fleet.
Instruments for bleeding horses and other animals [ <i>scam with a spring hammer</i> ].	5612	26th Jan. 1823	John Weiss.
Instrument or truss applicable to the nicking of horses' tails.	7403	19th July 1837	Whitmore Baker.
<b>FILTERING AND PURIFYING WATER AND OTHER FLUIDS.—CENTRIFUGAL APPARATUS.</b>			
<b>I.—Filtering and purifying.</b>			
Purifying corrupted water, and making sea water fresh, clear, and wholesome.	184	28th Oct. 1675	William Walcott.
Engine for rendering salt and brackish water sweet and fit for drinking, cooking, washing, and other purposes	226	9th June 1683	{ Robert Fitzgerald Theophilus Oglethorp. William Bridgman. Patrick Trant. Thomas Maule.
Machine for purifying foul and maggoty water	972	6th Dec. 1770	Bartholomew Dominiceti.
Machine for making fresh water from sea water	1163	19th July 1777	Alexander Maby Bailey.
Composition made of earth and other materials, and the means of manufacturing the same into basins and other vessels, for filtering water and other liquids.	1776	16th Oct. 1790	Johanna Hempel.
Filtration of water and other fluids	1844	23rd Dec. 1791	James Peacock.
Construction of cisterns or reservoirs for filtering, cleansing, and purifying water.	1920	28th Nov. 1792	George Cowen.
Strainers for oils and other liquids	3279	12th Dec. 1798	Joshua Collier
Machine for purifying and clarifying water	2598	24th March 1802	Henry Grant.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FILTERING, &amp;c.—continued.</b>			
Purifying, clarifying, reducing, separating, and decomposing fluids.	2626	31st May 1802	John Wilson.
Apparatus for purifying and improving water and other liquors by filtration.	2887	19th July 1805	Edward Witherby.
Machinery for extracting fresh water from, the salt water of the ocean, and for other purposes.	2952	25th July 1806	John Lamb.
Converting sea or salt water into fresh water, both on land and on board ship.	3235	18th April 1809	Frederick Archbold.
Machine for filtering and purifying water - - -	3312	27th Feb. 1810	Joseph Stephenson.
Filtering-vessels, for purifying and cleansing water -	3472	7th Aug. 1811	John Ashley.
Process of sweetening water and other liquids, and applicable to other purposes - - - - }	3538	8th Feb. 1812	{ Robert Dickinson. Henry Maudslay.
Refining and clarifying certain vegetable substances	3912	8th May 1815	{ John Martineau, junior. Peter Martineau, junior.
Clarifying and purifying certain fluids - - -	3924	10th June 1815	John Richter.
Construction of an apparatus for purifying liquids -	4233	7th March 1818	John Sutherland.
Filtering-vessels, and the filtering medium thereof -	4289	31st Aug. 1818	John Bennett.
Apparatus for filtration [by atmospheric pressure] -	4393	11th Aug. 1819	Henry Tritton.
Filter - - - - -	5000	11th Aug. 1824	Herman Schroder.
Apparatus connected with portable mineral or river water baths, and linen-warmers, for filtering water [strainers filled with sand and matted horse-hair].	5048	4th Dec. 1824	John Hillary Suwerkrop.
Filtering apparatus - - - - -	5114	5th March 1825	{ Abraham Henry Chambers. Ennis Chambers. Charles Jearrad.
Apparatus and process for separating salt from sea water, and thereby rendering it fresh and fit for use - - - - -	5401	4th Aug. 1826	{ John Williams. John Doyl.
Machine or apparatus for filtering ("artificial spring")	5559	8th Nov. 1827	James White.
Filtering apparatus [with layers of sand, charcoal, sponge and flint].	5632	26th March 1828	Ferdinand De Fouvielle.
Filtering apparatus or machines - - - - -	5685	16th Aug. 1828	Thomas Stirling.
Filtering water and various other liquids - - -	5697	4th Sept. 1828	William Bell.
Converting salt or other water into pure or fresh water - - - - -	6117	24th May 1831	{ Thomas Westrup. William Gibbins.
Apparatus for clarifying water and other fluids -	6180	9th Sept. 1831	James Neville.
Apparatus for converting salt, brackish, turbid, or impure water into purified or fresh water;—applicable to other purposes.	6184	20th Sept. 1831	Mark Cosnahan.
Filters for sugar and other liquids - - - - -	6517	6th Dec. 1833	John Hall.
Filter for water and other liquids - - - - -	6708	6th Nov. 1834	Samuel Bagshaw.
Materials used for fining or clarifying liquids -	6912	22nd Oct. 1835	John Dyer.
Obtaining distilled water from sea water - - -	7011	23rd Feb. 1836	François Peyre, junior.
Filtration - - - - -	7103	28th May 1836	Joseph Meucke Gerothwohl.
Filters employed in sugar-refining - - - - -	7289	24th Jan. 1837	Julius Oliver.
Freeing wooden or other porous vessels from foreign matter absorbed, and turning the liberated matter to useful account.	7459	4th Nov. 1837	Ernst Adolphus Ortman.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FILTERING, &amp;c.—continued.</b>			
Filtering fluids - - - - -	7492	28th Nov. 1837	{ John Dover. William Jones.
Filters employed in sugar-refining - - -	7801	26th March 1838	Julius Oliver.
Clarifying water and other liquids - - -	7690	14th June 1838	George Price.
Clarifying and filtering water, beer, wine, and other liquids.	7829	11th Oct. 1838	Matthew Heath.
Apparatus for filtering liquids - - - - -	7855	6th Nov. 1838	Robert Beart.
Filtering liquids - - - - -	7860	8th Nov. 1838	John Small.
Extracting the salt from sea water, and rendering it pure and drinkable; purifying other water.	7887	1st Dec. 1838	Theodore Cotelte.
Apparatus and materials employed in filtering and clarifying water and other liquids.	7889	1st Dec. 1838	William Pontifex.
Filtration - - - - -	7909	12th Dec. 1838	Henry De Crouy.
Filters; means of cleansing the same; separating colouring and tanning matters by filtration; employing such tanning matters.	8296	4th Dec. 1839	Pierre Narcisse Cronier.
Apparatus for filtering fluids - - - - -	8379	8th Feb. 1840	Robert Beart.
Distilling water and other fluids - - - - -	8559	2nd July 1840	John David Poole.
Filters [for filtering sugar] - - - - -	8675	2nd Nov. 1840	Herman Schroeder.
Purifying and softening certain waters, for the use of manufactories, villages, towns, and cities.	8875	8th March 1841	Thomas Clark.
Filtering liquids - - - - -	9001	23rd June 1841	William Chesterman.
Construction of filters used in the manufacture of sugar.	9208	23rd Dec. 1841	John Watson.
Process and apparatus for filtering water and other liquids.	9520	15th Nov. 1842	André Eustache Gratien Auguste Maurras.
Filtering water and other liquids - - - - -	9539	3rd Dec. 1842	William Henry Stuckey.
Filtering oils - - - - -	9746	27th May 1843	Richard Henry Billiter.
Machines used for filtering - - - - -	10,494	25th Jan. 1845	Johann Gottlob Seyrig.
Steam-propelling machinery [purifying or filtering water previous to feeding the boilers of marine steam-engines].	10,511	5th Feb. 1845	John Seaward.
Apparatus for filtering and purifying water. - -	10,515	10th Feb. 1845	Thomas Truman.
Filtering water and other fluids - - - - -	10,984	8th Dec. 1845	Josiah Wilkinson.
Fining or clarifying liquids - - - - -	11,045	20th Jan. 1846	Gerard Andrew Arney.
Separating the fluid and soluble parts of certain vegetable substances from the solid parts thereof.	11,057	22nd Jan. 1846	Joseph Cooper.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [filtering water or other like fluids].	11,149	25th March 1846	Charles Smith.
Pyro-hydro-pneumatic apparatus, for generating and purifying steam and other vapours [converting salt water into fresh water].	11,275	29th June 1846	Charles Clark.
Refining sugar [filtering] - - - - -	11,280	6th July 1846	Richard Wright.
Filtering water for steam-engines and boilers - -	11,366	3rd Sept. 1846	Nicholas Harvey.
Filtering apparatus - - - - -	11,378	17th Sept. 1846	Richard Ford Sturges.
Purifying water - - - - -	11,432	3rd Nov. 1846	{ Henry Headley Parish. Samuel Rootsey.
Filtering and preventing liquids freezing, and apparatus for the purpose.	11,453	17th Nov. 1846	Thomas Masters.
Apparatus used for purifying liquids - - - - -	11,471	1st Dec. 1846	William Mayo.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FILTERING, &amp;c.—continued.</b>			
Apparatus for filtering infusions of coffee and other articles.	11,583	16th Feb. 1847	Francis Henry Waller.
Apparatus for filtering - - - - -	11,673	27th April 1847	Caroline Watson.
Apparatus for filtering - - - - -	11,919	21st Oct. 1847	{ Brooke Smith. Richard Ford Sturgis.
Machinery for purifying liquids - - - - -	12,270	21st Sept. 1848	Joseph Lillie.
Steam-engines [ <i>apparatus for condensing steam, and thus producing fresh water</i> ].	12,385	28th Dec. 1848	William Edward Newton.
Apparatus and process for converting salt water into fresh water.	12,556	2nd April 1849	William M'Bride, junior.
Purifying, filtering, and rendering water fit for drinking purposes.	12,592	26th April 1849	John Horsley.
Filtering syrups and other liquors - - - - -	12,682	4th July 1849	{ Thomas Greenwood. Frederick Parker.
Converting sea water into fresh - - - - -	12,730	1st Aug. 1849	James Murdoch.
Apparatus for filtering oil and other liquids - - - - -	12,940	24th Jan. 1850	August Reinhard.
Apparatus for filtering and purifying water - - - - -	13,149	24th June 1850	William Laird.
Filtering water and other liquids - - - - -	13,154	27th June 1850	James Forster.
Filters - - - - -	13,254	12th Sept. 1850	{ Astley Paston Price. James Heywood Whitehead.
Purifying water and preparing it for engineering, manufacturing, and domestic uses.	13,256	19th Sept. 1850	Richard Archibald Brooman.
Apparatus for filtering water to be supplied to } boilers - - - - - }	13,435	2nd Jan. 1851	{ John Tatham. David Cheetham.
Filtering oils and other liquids - - - - -	13,462	18th Jan. 1851	John Lienau, junior.
Obtaining fresh and pure water from salt, sea, and } other waters - - - - - }	13,507	11th Feb. 1851	{ George Briand. Richard Fell.
Machinery for pumping, forcing, and exhausting steam, fluids, and gases, and the adaptation thereof to the saturation, separation, and decomposition of substances [ <i>filtering and compressing solid matters</i> ].	13,577	31st March 1851	John Gwynne.
Obtaining fresh water from salt water - - - - -	13,714	7th Aug. 1851	{ Alphonse René le Mire de Normandy. Richard Fell.
Filtering and preserving water - - - - -	13,949	2nd Feb. 1852	Frederick Philip Thompson.
Machinery, apparatus, and processes for the preparation of grain and its conversion into liquors, whether malt, saccharine, vinous, alcoholic, or acetous [ <i>filtering vinous and saccharine liquors</i> ].	14,119	8th May 1852	William Littell Tizard.
Manufacture, refining, and treating of sugar [ <i>filter for saccharine fluids</i> ].	14,236	24th July 1852	Henry Bessemer.
Apparatus for filtering liquids, and ornamenting such apparatus [ <i>by the electro-galvanic process</i> ].	14,300	23rd Sept. 1852	François Mathieu.
Rendering sea and other water pure [ <i>by chemical agency</i> ].	14,349	27th Nov. 1852	Lewis Pocock.
<b>II.—Centrifugal Apparatus.</b>			
Machinery for facilitating the extraction of diamonds and other precious stones, also gold, silver, and other metals, from the ore, the earth, or the sand; —applicable to other purposes [ <i>washing by a centrifugal apparatus</i> ].	5428	13th Dec. 1826	Charles Harsleben.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FILTERING, &amp;c.—continued.</b>			
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [ <i>whirling apparatus for drying substances</i> ].	12,491	28th Feb. 1849	Henry Crosley.
Separating the more liquid from the more solid parts of fatty and oily matters; separating the same from foreign matters [ <i>by employment of an hydro-extractor</i> ].	12,501	28th Feb. 1849	George Fergusson Wilson.
<i>Brazing, pressing, separating, cleaning, and bleaching; cooling or heating matters; pistons, valves, taps, and spring apparatus [extracting liquids from solid matters by a centrifugal apparatus].</i> [The words of the title printed in italics are disclaimed.]	12,626	2nd June 1849	Moses Poole.
Separating various matters usually found combined in saccharine, saline, and ligneous substances [ <i>by means of centrifugal machines</i> ].	13,023	26th March 1850	Thomas Dickason Rotch.
Apparatus for separating fluid from other matters } [ <i>hydro-extractors, operating by centrifugal action</i> ]	13,098	4th June 1850	{ David Napier. James Murdock Napier.
Apparatus acting by centrifugal force in the manufacture of sugar; treatment of saccharine matter by such apparatus.	13,202	31st July 1850	Henry Bessemer.
Manufacture of sugar; cutting and rasping vegetable substances [ <i>centrifugal machine used in sugar-making</i> ].	13,416	19th Dec. 1850	Philip Nind.
Preparation of peat and other ligneous and carbonaceous substances; conversion of some of the products derived thereby, and the mode of their application to the preservation of substances liable to decomposition and destructive agencies, and which mode is also applicable to other products of a similar nature [ <i>adaptation of a rotary centrifugal machine to aid in expelling moisture from peat</i> ].	13,420	19th Dec. 1850	William Henry Green.
Cleaning, drying, and dyeing machines, and machinery to be used in sugar, soap, metal, and colour manufacturing [ <i>machinery acting by centrifugal force</i> ].	13,490	3rd Feb. 1851	Alexander Alliot.
Centrifugal apparatus for separating fluid from other matter.	13,517	18th Feb. 1851	Thomas Dickason Rotch.
Machinery for pumping, forcing, and exhausting steam, fluids, and gases, and the adaptation thereof to the saturation, separation, and decomposition of substances [ <i>adaptation of centrifugal apparatus for separating fluid from solid fatty, bituminous, or other substances, and for other purposes</i> ].	13,577	31st March 1851	John Gwynne.
Machinery or apparatus for pumping, forcing, and agitating fluids [ <i>suspending the drums of centrifugal machinery used for agitating fluids</i> ].	13,779	17th Oct. 1851	Richard Roberts.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, STOVES, FURNACES, OVENS, AND KILNS.</b>			
<b>I.—Fireplaces and Stoves.</b>			
Making or erecting stoves of iron, brickwork, and earth, for heating water or other liquor, and for making salt; also for heating hothouses and rooms in dwelling-houses, as well as for drying all sorts of grain and various other articles, with sea-coal, charcoal, peat, turf, or other fuel -	75	19th Nov. 1634	{ Hildebrand Prusen. Howard Strach.
Making fire-hearths of cast iron, brass, or copper -	151	13th Jan. 1667	Sir Samuel Morland and others.
Making fire-hearths for ships, of iron, copper, or other metals - - - - -	197	20th March 1677	{ William Castle. Colonel Henry Ewbanke.
Machine for warming rooms with coal fires - -	886	25th April 1765	Abraham Buzaglo.
Making fire stoves and registers - - - -	880	14th July 1767	{ Alexander Brodie. Richard Williams.
Making medicated salubrious stoves - - -	882	11th Sept. 1767	Bartholomew Dominiceti.
Moveable stove, useful for heating or airing rooms and other places.	944	9th Dec. 1769	Richard Hornbuckle.
Stoves, either portable or fixed, for warming rooms, churches, &c.	957	28th April 1770	David Riz.
Grate or stove with its appurtenances, made of metal plated with silver, with or without ornaments of enamel or lapis-lazuli.	1010	3rd April 1772	Mark Homer.
Stove-grates, with front bars of cast iron - -	1204	23rd Dec. 1778	William Bent.
Kitchen-range, with an oven attached - - -	1267	21st Oct. 1780	Thomas Robinson.
Stove or grate - - - - -	1304	21st Aug. 1781	James Sharp.
Making fire-grates - - - - -	1361	25th March 1783	Joseph Langmead.
Making chimney-fronts with grates for warming rooms.	1419	9th Feb. 1784	Joseph Langmead.
Stove for coppers, furnaces, malt-houses, and all other places and manufactories where copper-holes or stoke-holes are made use of.	1477	3rd May 1785	James Phillips.
Empyrean stove, for purifying the air of churches, theatres, gaols, sick and other rooms, and enclosed buildings.	1533	21st Feb. 1786	Adam Walker.
Ornamenting all manner of stove grates with foil stones, Bristol stones, paste, and all sorts of pinched glass, sapped glass, and every other stone, glass, and composition used in or applicable to the jewellery trade.	1552	5th Aug. 1786	John Skidmore.
Fire-grate - - - - -	1589	1st Feb. 1787	James Tate.
Construction of a grate, with air flues in the cheeks and back.	1798	18th March 1791	Benjamin Charles Collins.
Register stove - - - - -	1909	24th July 1792	James Tucker.
Kitchen-ranges, stoves and grates - - - -	1907	7th Sept. 1792	William Armitage.
Grate, range or stove, with apparatus to be applied thereto to prevent chimneys smoking, and to facilitate the processes of cooking without using charcoal; also adapted to the operations of the washhouse and laundry - - - - -	1985	7th May 1794	{ George Stratton. Samuel Griswold Dorr.
Moveable regulating machine or apparatus for the improvement of fire-places and flues.	2031	12th Jan. 1795	Thomas Crosby.
Stove or grate - - - - -	2056	1st July 1795	Richard Weightman.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
'Economical fireplace' - - - - -	2071	22nd Oct. 1795	Louis Joseph François Julien Count de Robien.
Stove - - - - -	2139	3rd Oct. 1796	Ralph Wedgwood.
Fire-grates and stoves - - - - -	2358	23rd Nov. 1799	James Burns.
Fire-stove or grate - - - - -	2470	3rd Feb. 1801	Robert Young.
Fire-places - - - - -	2522	26th June 1801	George Stratton.
Portable stove or kitchen, for dressing victuals -	2585	27th Feb. 1802	George Bodley.
Fire-grate - - - - -	2609	21st Dec. 1802	Matthew Wyatt.
Register stove - - - - -	2671	21st Dec. 1802	John Lewell.
Stove, grate, or range, applicable to those used in churches, chapels, houses, buildings, and rooms.	2756	8th May 1804	Nathaniel Merriman.
Fire-guard stove - - - - -	2762	18th May 1804	Joshua Jowett.
Fire-places - - - - -	2795	4th Dec. 1804	John Edwards.
Construction of fire-places, and adapting stoves and grates thereto.	2839	18th April 1805	Robert Dodd.
Stove or grate and range by which rooms will be more effectually warmed.	2882	27th Sept. 1805	James Macnaughton.
Stove of a new construction; also various improvements applicable to stoves, grates, and fireplaces.	3049	11th June 1807	Allan Pocock.
Register and other stoves - - - - -	3114	3rd March 1808	{ John Cowden. John Partridge.
Portable stove of cast iron, forged or plate iron, or other metals - - - - -	3287	14th Dec. 1809	{ John Murray. Adam Anderson.
Making a kitchen fire-place - - - - -	3296	1st Feb. 1810	John Craigie.
Construction of stove-grates calculated to prevent or cure smoky chimneys, and possessing other advantages over the stove-grates in common use.	3313	6th March 1810	John Justice.
Stoves and chimney fireplaces - - - - -	3331	2nd May 1810	William Clerk.
Kitchen-ranges and stoves; setting the same -	3427	1st April 1811	Thomas Deakin.
Stove heated by fire or steam, for heating wool-combs.	3454	11th June 1811	George Gilpin.
Applying air for manufacturing and domestic purposes, and employing therein improved fireplaces and bricks [ <i>fireplaces for heating water for warming rooms, drying goods, &amp;c.</i> ].	3664	13th March 1813	Benford Deacon.
Construction of fireplaces - - - - -	3752	16th Nov. 1813	William Burge.
Stove-grates to prevent smoky rooms, and for obtaining increased heat from the same quantity of fuel.	3763	29th Nov. 1813	Isaac Willson.
Fire-pan or fire-lamp; also fire-grate or fire-stove for consuming small coals.	3783	21st Feb. 1814	John Buddle.
Improvements applicable to fire-places - - -	3787	12th March 1814	Roger Haalewood.
Concave cabin-stove - - - - -	3815	7th June 1814	Grant Preston.
Fireplaces, stoves, &c. - - - - -	3873	6th Jan. 1815	John Cuttler.
Grate and apparatus - - - - -	3940	18th July 1815	Charles Coldridge.
Constructing register and other stoves - - -	3953	21st Aug. 1815	John Chisholm.
Stove, grate, or fireplace - - - - -	3975	15th Jan. 1816	{ Thomas Deakin. John Richard Haynes.
Globe reflecting stove, for light and heat - -	3999	20th March 1816	Enoch Tonkin.
Grates and stoves - - - - -	4001	23rd March 1816	{ Emerson Dowson. John Isaac Hawkins.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Fire-stoves, grates, and ranges - - - -	4108	11th March 1817	William Raybould.
Fireplaces - - - - -	4147	5th Aug. 1817	George Stratton.
Fire-grates, by which the combustion of smoke is more easily effected.	4316	5th Dec. 1818	Jeremiah Spencer.
Pneumatic stove for heating atmospheric air and diffusing the same through houses, hothouses, greenhouses, and other buildings.	4362	28th April 1819	William Willcox.
Cooking apparatus [ <i>insulated stove</i> ] - - -	4408	4th Nov. 1819	John Heard.
Fire-grates - - - - -	4449	19th April 1820	William Brunton.
Making a kitchen-range and apparatus for cooking and other purposes.	4579	4th Aug. 1821	John Slater.
Fire-grates, and means of introducing coal therein " <i>peristaltic grate</i> ."	4685	26th June 1822	William Brunton.
Grates, stoves, and other inventions for the consumption of fuel.	4744	26th Dec. 1822	George Richards.
Manufacture of grates - - - - -	4845	11th Sept. 1823	James Sprigg, senior.
Stoves or grates [ <i>fuel introduced in a box behind</i> ] -	5190	18th June 1825	{ George Atkins. Henry Marriott.
Construction of stoves, grates, or fireplaces [ <i>supplied with fuel from a revolving receptacle</i> ].	5257	15th Sept. 1825	Charles Jacomb.
Improvements in or additions to fireplaces [ <i>to consume their own smoke</i> ].	5841	9th Sept. 1829	Joseph Ange Fonzi.
Air-stove apparatus, for exhalation and condensation of vapours.	6016	20th Oct. 1830	Andrew Ure.
Fire-grate [ <i>with air passages behind</i> ] - - -	6108	14th April 1831	{ Thomas Gaunt. George Frederick Eckstein.
Improvements connected with grates and other fireplaces.	6135	13th July 1831	James Pycroft.
Making fire-grates - - - - -	6324	22nd Oct. 1832	Shearman Converse.
Construction of grates and stoves applicable to steam-engines and to other purposes.	6617	24th May 1834	John George Bodmer.
Kitchen or other grates or ranges (" <i>Weeks' cooking apparatus</i> ").	6677	20th Sept. 1834	Edward Weeks.
Grates or apparatus applicable to steam-engines or to other purposes; apparatus for feeding the same with fuel; applicable, conjointly or separately, to other purposes - - - - }	6703	22nd Oct. 1834	{ John Stanley. John Walsley.
Constructing an apparatus in which combustion is carried on.	6875	10th Aug. 1835	John Copper Douglas.
Manufacturing fireplaces - - - - -	7091	12th May 1836	Richard Wilson.
Construction of stoves for drying salts - - -	7105	2nd June 1836	William Gossage.
Construction of Cockles' stoves, or apparatus for drying or stoving hops, malt, grain, or seeds.	7423	24th Aug. 1837	Robert Brown.
Stoves - - - - -	7525	23rd Dec. 1837	Jehiel Frankling Norton.
Apparatus for applying prepared fuel to culinary and domestic purposes [ <i>ironing stoves</i> ].	7593	15th March 1838	Thomas Joyce.
Stoves and grates - - - - -	7803	26th March 1838	Julius Jeffreys.
Stoves - - - - -	7811	10th April 1838	Thomas Watson.
Means of preparing the vegetable material of peat moss or bog so as to render it applicable to several useful purposes, and particularly for fuel [ <i>coking-stove</i> ].	7744	26th July 1838	Charles Wye Williams.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Fireplaces and stoves for the consumption of smoke and saving of fuel; mode of applying them to the generation of steam, smelting metals, and other works.	7765	7th Aug. 1838	Richard Rodda.
Stoves - - - - -	7791	31st Aug. 1838	{ John Earle Huxley. John Earle Huxley, junr. John Oliver.
Construction of heated air stoves - - - -	7823	27th Sept. 1838	John White.
Construction of stoves - - - - -	7824	8th Oct. 1838	John Bourne.
Stoves, and apparatus for making the same - -	7825	8th Oct. 1838	Jehiel Forbes Norton.
Fireplaces for consuming anthracite and other fuel, for generating steam, for evaporation, and for smelting and heating iron and other metals.	7888	1st Dec. 1838	John Player.
Stoves - - - - -	7917	20th Dec. 1838	Samuel Parker.
Stoves - - - - -	7947	22nd Jan. 1839	George Stevens.
Stoves and grates - - - - -	8065	10th May 1839	{ William Harper. Thomas Walker.
Stoves - - - - -	8122	22nd June 1839	George Calder.
Grates used in steam-engines or other furnaces or fireplaces.	8178	1st Aug. 1839	William Miller.
Stoves for warming the air in buildings, or for communicating heat for other useful purposes.	8202	21st Aug. 1839	Stephen Joyce.
Stoves or fireplaces - - - - -	8215	9th Sept. 1839	Frederick Brown.
Stoves - - - - -	8257	2nd Nov. 1839	Henry Venner Cocks.
Stoves - - - - -	8268	12th Nov. 1839	William Chesterman.
Fireplaces for the better consuming of fuel - -	8307	9th Dec. 1839	John Juckes.
Arrangement and construction of fire-grates or fireplaces.	8360	23rd Jan. 1840	Alexander Hett.
Kitchen-ranges for culinary purposes - - -	8373	5th Feb. 1840	{ Wilkinson Steele. Patrick Sanderson Steele.
Fireplaces - - - - -	8829	3rd Feb. 1841	Thomas Young.
Fire grates and parts connected therewith, for furnaces used for heating fluids.	8853	22nd Feb. 1841	Anthony Bernhard Von Rathen.
Construction and arrangement of fireplaces applicable to various purposes.	8934	24th April 1841	Floride Heindryckx.
Construction of stoves, and apparatus connected therewith, for warming and ventilating buildings }	9026	13th July 1841	{ William Henry Phillips. David Hickinbotham.
Stoves or fireplaces - - - - -	9103	24th Sept. 1841	Frederick Brown.
Kitchen-ranges - - - - -	9377	2nd June 1842	Henry Jubber.
Stoves - - - - -	9440	9th Aug. 1842	Thomas Walker.
Stove - - - - -	9540	6th Dec. 1842	William Pope.
Producing ornamental surfaces on or with iron, applicable in the manufacture of stoves, and other uses.	9681	28th March 1843	John Sylvester.
Construction of fireplaces - - - - -	9882	21st Sept. 1843	William Denley.
Grates - - - - -	9899	5th Oct. 1843	John George Bodmer.
Stoves - - - - -	10,138	10th April 1844	Frederick Brown.
Construction and arrangement of stoves and fireplaces.	10,248	3rd July 1844	Thomas Syson Cundy.
Construction of stoves, grates, or fireplaces generally	10,269	24th July 1844	General George Wilson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Apparatus for burning coal - - - - -	10,489	16th Jan. 1845	William Hunt.
Stoves, and apparatus for consuming fuel - -	10,501	28th Jan. 1845	John Leslie.
Stoves - - - - -	10,503	30th Jan. 1845	Matthew Allen.
Stoves and fireplaces - - - - -	10,639	29th April 1845	John Sylvester.
Stoves - - - - -	10,795	31st July 1845	William Cook.
Stoves - - - - -	10,813	9th Aug. 1845	Charles Searle.
Stoves and fireplaces - - - - -	11,035	13th Jan. 1846	George Tillett.
Stoves - - - - -	11,096	17th Feb. 1846	Stephani Etievant.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>fireplaces</i> ].	11,149	25th March 1846	Charles Smith.
Stoves, grates, and fireplaces - - - - -	12,043	27th Jan. 1848	John Collins.
Fireplaces - - - - -	12,174	3rd June 1848	Henry Adcock.
Construction of stoves and fireplaces - - -	12,204	6th July 1848	William Edward Newton.
Fireplaces - - - - -	12,224	29th July 1848	John Grist.
Construction of fireplaces - - - - -	12,323	9th Nov. 1848	Richard Coad.
Fireplaces - - - - -	12,332	18th Nov. 1848	John Juckes.
Construction and arrangement of stoves for cooking and for other purposes.	12,357	2nd Dec. 1848	John Duley.
Manufacture of stoves - - - - -	12,396	28th Dec. 1848	Robson Jobson.
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [ <i>gas-stove and coal fire stove</i> ].	12,491	28th Feb. 1849	Henry Crosley.
Apparatus for effecting the combustion of fuel -	12,527	19th March 1849	Samuel Hall.
Improvements applicable to fireplaces of every description - - - - -	12,562	3rd April 1849	{ James Godfrey Wilson. William Pidding.
Grates, stoves, or fireplaces - - - - -	12,634	5th June 1849	William Edward Newton.
Fireplaces; apparatus connected therewith - -	13,023	23rd March 1850	Edward Welch.
Warming and ventilating buildings [ <i>store</i> ] - -	13,075	22nd May 1850	William Edward Newton.
Stoves - - - - -	13,312	2nd Nov. 1850	John Slate.
Stoves - - - - -	13,373	30th Nov. 1850	William Henry Ritchie.
Fireplaces - - - - -	13,432	28th Dec. 1850	Thomas Symes Prideaux.
Obtaining heat [ <i>gas-stoves</i> ] - - - - -	13,783	22nd Oct. 1851	{ William Boggett. George Holworthy Palmer.
Stoves, grates, or fireplaces - - - - -	14,004	8th March 1852	George Wright.
Stoves and other apparatus for heating [ <i>arrangement of flues</i> ] - - - - -	14,032	24th March 1852	{ Isaac Brooks. William Lutwyche Jones.
<b>II.—Furnaces for Smelting and Calcining.</b>			
Furnace for melting lead by means of sea-coal or other fuel, wood excepted.	26	20th Sept. 1623	William Conneldon.
Making furnaces for smelting and melting copper, tin, lead, and iron.	83	25th June 1635	CaptainThornesseFrancke.
Hanging and setting brewing-furnaces and all other boiling-furnaces, for melting metals and their ores.	126	13th July 1660	Sergeant-Major Thorney Franke.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Furnace for smelting copper and tin by means of coals - - - - -	239	28th Aug. 1684	{ Henry Howard. Richard Brett.
Furnaces for extracting gold, silver, copper, lead, and tin, from their ores, and reducing them to malleable metals - - - - -	253	25th Jan. 1687	{ Sir Robert Clerke. Robert Brent. Talbot Clerke.
Reverberating furnace, for melting and refining lead.	264	26th June 1690	John Hodges.
Furnace for making, melting, and preparing the metal for making glass wares.	426	26th March 1720	Benjamin Perrott.
Air and blast furnaces for refining copper - -	443	21st April 1722	George Moore.
Furnace for melting and preparing all sorts of glass wares.	545	15th Feb. 1734	Humphrey Perrott.
Building furnaces for the making of crown glass, plate glass, and all sorts of green glass - -	744	17th Jan. 1760	{ William Riccards. Richard Russell.
Furnace for smelting and refining metals, and for other purposes.	774	21st May 1762	Sampson Swain.
Air-furnace for making cast iron malleable by means of coals - - - - -	851	17th June 1766	{ Thomas Cranage. George Cranage.
Constructing smelting and testing furnaces - -	894	8th March 1768	Robert Albion Cox.
Furnaces for making glass without the use of pots -	929	9th June 1769	{ Richard Russell, senior. Richard Russell, junior.
Bloomery for making and refining iron - - -	988	2nd May 1771	John Cokshutt.
Furnace for smelting and refining tin from the ore -	1310	4th March 1782	John Partridge.
Furnace for preparing and welding iron - -	1351	17th Jan. 1783	Henry Cort.
Methods of constructing furnaces or fireplaces for heating, melting and smelting, metals and their ores, whereby greater effects are produced from the fuel, and the smoke is in a great measure consumed.	1485	14th June 1785	James Watt.
Air-furnace for manufacturing iron, copper, and other metals.	1642	4th March 1788	Robert Gardner.
Air furnace for making iron - - - - -	1966	6th Nov. 1793	William Taylor.
Furnace for smelting and making pig iron - -	2008	8th April 1802	James Brech.
Furnaces for separating metallic and other substances from their ores, or other matters combined or united with them.	3612	31st Oct. 1812	William Evetts Sheffield.
Construction of furnaces for smelting copper and other ores - - - - -	3938	12th July 1815	{ William Beavan. Martin Beavan.
Box, case, or frame forge, applicable to shipping, agriculture, and other purposes.	4335	20th Jan. 1819	Frederick Clifford Cherry
Smelting-furnace - - - - -	4504	23rd Oct. 1820	William Taylor.
Construction of blast-furnaces and apparatus connected therewith, adapted to save fuel.	4895	13th Nov. 1823	Robert Stein.
Construction of furnaces and forges for the preparation of iron or steel, and for the process of manufacturing nails and other articles from the said materials.	4932	7th April 1824	Joseph Spencer.
Air-furnace for melting or fusing metallic substances - - - - -	5031	6th Nov. 1824	{ John White, junior. Thomas Sowerby.
Construction of forges [portable, with bellows] -	5115	5th March 1825	William Halley.
Furnaces for smelting different kinds of metals, ores, and slags.	5492	28th April 1827	Benjamin Somers.
Furnaces for the calcination, sublimation, or evaporation of ores, metals, and other substances.	5621	21st Feb. 1828	William Brunton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Puddling-furnace, for the better production of manufactured iron in the process of obtaining it from the pig iron - - - - -	6299	7th Sept. 1832	{ Daniel Horton. George Horton.
Forges - - - - -	6730	9th Dec. 1834	John West.
Construction of furnaces for the reduction of iron and other metallic ores, which furnaces are applicable to other purposes.	7272	11th Jan. 1837	Henry Adcock.
Furnaces for consuming anthracite and other fuel, for smelting and heating iron and other metals.	7888	1st Dec. 1838	John Player, junior.
Construction of cupola furnaces for melting metals -	8152	13th July 1839	James Yates.
Construction of puddling, balling, and other reverberatory furnaces, for the purpose of enabling anthracite, stone coal or culm to be used therein as fuel - - - - -	8820	30th Jan. 1841	{ Charles Schaffhautil. Edward Oliver Manby. John Manby.
Reverberating furnace for smelting copper ore and other ores.	9033	21st July 1841	John White Welch.
Furnaces for reducing ores of zinc;—partly applicable to other furnaces - - - - -	9591	14th Jan. 1843	{ Henry Hussey Vivian. William Gossage.
Furnaces for manufacture of iron - - - - -	9617	31st Jan. 1843	George Benjamin Thorneycroft.
Furnaces for subliming ores of zinc, or reducing them to a metallic state.	9903	12th Oct. 1843	John Cleaver.
Construction of furnaces or fireplaces [used in manufacturing metals].	9911	18th Oct. 1843	Julius Adolphe Detmold.
Furnaces used in the manufacture of zinc - - -	9912	18th Oct. 1843	James Graham.
Construction of furnaces for treating copper ores -	9999	28th Dec. 1843	{ Edward Budd. William Morgan.
Furnaces for the manufacture of iron and steel -	10,470	16th Jan. 1845	John James Osborne.
Construction of blast-furnaces - - - - -	11,482	14th Dec. 1846	James Yates.
Construction of blast and other furnaces - - -	12,323	9th Nov. 1848	Richard Coad.
Preparing puddling-furnaces used in the manufacture of iron.	12,416	13th Jan. 1849	George Williams.
Construction of furnaces for melting and fining glass.	12,554	28th March 1849	Henry Howard.
Puddling and other furnaces - - - - -	12,750	30th Aug. 1849	Thomas Symes Prideaux.
Reverberatory and other furnaces - - - - -	12,895	15th Dec. 1849	Alfred Dalton.
Construction and manufacture of furnaces and the materials to be used for the same; such furnaces and materials being applicable to the treatment of metals and metallic compounds, and to other purposes of a like nature.	13,118	11th June 1850	Alexander Parkes.
Furnaces or apparatus for smelting ores and minerals, and for making pig iron.	13,303	2nd Nov. 1850	Matthew Hodgkinson.
Furnaces for melting metals for the purpose of making brass, yellow metal, and other compound metals.	13,461	18th Jan. 1851	George Frederick Muntz, junior.
Construction of the permanent way of railways [employment of a portable cupola furnace for casting railway chairs].	13,500	10th Feb. 1851	Richard Stuart Norris.
Construction of furnaces for manufacture of glass -	13,711	6th Aug. 1851	{ Edwin Deeley. Richard Mountford Deeley.
Furnaces used in the manufacture of iron - - -	13,913	24th Jan. 1852	Joseph Jones.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
<b>III.—Furnaces for Steam-engine Boilers.</b>			
Methods of constructing furnaces or fireplaces applicable to steam-engines and to other purposes, whereby greater effects are produced from the fuel, and the smoke is in a great measure consumed.	1485	14th June 1785	James Watt.
Constructing furnaces for applying fire to steam-engine boilers, and boilers of every description - }	2437	13th Aug. 1800	{ John Robertson. James Robertson.
Steam-engine furnace or boiler - - - - -	2574	23rd Jan. 1802	Richard Willcox.
Furnace connected with steam-boilers - - - - -	4810	12th Nov. 1818	James Fraser.
Furnaces of steam-engines [with a grate revolving horizontally].	4387	29th June 1819	William Brunton.
Construction of furnaces for boilers - - - - -	4472	6th June 1820	John Wakefield.
Production of heat, by the application of well-known principles not hitherto made use of in the construction of furnaces or steam-engines, and of air-furnaces in general, whereby a considerable saving in the expenditure of fuel is obtained, and the total consumption of smoke may be effected [the employment of a rotary-blowing apparatus].	4646	12th Feb. 1822	George Holworthy Palmer
Construction of the furnace of steam-boilers and other vessels, by which fuel is economized and smoke consumed - - - - -	4870	20th Nov. 1823	{ Jacob Perkins. John Martineau.
Furnaces for steam-boilers and for other purposes -	6389	21st Feb. 1833	Thomas Hills, junior.
Improvements applicable to the furnaces of steam-boilers, and to furnaces for other purposes.	6458	12th Aug. 1833	William Wigston.
Construction of furnaces applicable to steam-engines.	6616	24th May 1834	John George Bodmer.
Combination of parts forming an improved furnace, applicable to locomotive-carriages, steamboats, and to other purposes - - - - -	6920	2nd Nov. 1835	{ John Chanter. John Gray.
Furnaces for steam-engine boilers and other purposes.	7121	18th June 1836	John Hopkins.
Furnaces used in steam-engines - - - - -	7305	17th Feb. 1837	Henry Elkington.
Furnaces for locomotive engines and for other purposes - - - - -	7306	17th Feb. 1837	{ John Chanter. John Gray.
Construction of locomotive-engine boiler furnaces.	7335	4th April 1837	Henry Booth.
Furnaces used for the generation of steam or for other purposes.	7467	11th Nov. 1837	James Slater.
Furnaces for the saving of fuel; mode of applying them to the generation of steam, smelting of metals, and other works.	7765	7th Aug. 1838	Richard Rodda.
Furnaces for steam-boilers - - - - -	7805	13th Sept. 1838	{ John Chanter. John Grantham.
Improvements applicable to steam-engine boiler and other furnaces.	7974	21st Feb. 1839	Thomas Hall.
Furnaces for heating steam-boilers - - - - -	8813	26th Jan. 1841	Nathaniel Waddington.
Furnaces for locomotive and other engines - - -	8817	6th July 1843	Florimond Delcroix, junior
Furnaces of stationary steam-boilers - - - - -	10,166	30th April 1844	{ William Fairbairn. John Hetherington.
Machinery or apparatus applicable to furnaces of steam-engine or other boilers.	11,109	25th Feb. 1846	Thomas Murgatroyd Dean
Steam-engine furnaces - - - - -	11,207	13th May 1846	Julius Jeffreys.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Furnaces of steam-boilers, for the purpose of consuming the smoke and saving fuel.	11,260	24th June 1846	Ambrose Lord.
Steam-boiler furnaces - - - - -	13,003	22nd Dec. 1847	Henry F. Baker.
Obtaining and applying motive-power; machinery and engines employed therein [ <i>arrangement and construction of steam-boiler furnaces</i> ].	12,088	8th March 1848	Joseph Maudslay.
Furnaces connected with steam-boilers;—partly applicable to other similar purposes - - - }	12,300	26th Oct. 1848	{ James Burrows. George Holcroft.
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [ <i>construction of boiler and other furnaces</i> ].	12,491	28th Feb. 1849	Henry Crosley.
Steam-boiler furnaces - - - - -	14,223	15th July 1852	Charles Barrington.
<b>IV.—Furnaces for manufacturing and other purposes.</b>			
Furnaces for salt-making - - - - -	144	17th April 1664	Nicholas Pitts.
Furnace for roasting coffee-berries without charcoal	373	22nd Dec. 1704	Richard Bull.
Furnace for making salt - - - - -	607	19th July 1744	William Radley.
Furnace for making salt from sea-water - - -	614	17th Sept. 1745	Edward Fairles.
Double and single iron furnaces, made of wrought-iron plates, instead of copper, for the navy.	688	31st Jan. 1754	William Johnson.
Furnaces for facilitating the process of making and preparing pot-ashes and pearl-ashes.	1223	10th May 1779	Richard Shannon.
Methods of constructing furnaces or fireplaces for heating, boiling, or evaporating water and other liquids, whereby greater effects are produced from the fuel, and the smoke is in a great measure consumed.	1485	14th June 1785	James Watt.
Making fireplaces for baking pottery - - -	2127	5th July 1796	{ Valentine Close. James Keeling.
Furnace or fireplace - - - - -	2152	13th Dec. 1796	Francis Lloyd.
Construction of and fixing furnaces - - -	2162	7th Feb. 1797	John Grover.
Portable and moving furnace for heating ovens -	2214	10th Feb. 1798	Robert Howden.
Furnaces - - - - -	2358	23rd Nov. 1799	James Burns.
Construction and application of a gun, by removing the touch-hole from the side to the centre of the butt end of the barrel [ <i>furnace to be used in the manufacture of guns</i> ].	2466	23rd Jan. 1801	Robert Vazie.
Furnace - - - - -	2493	30th April 1801	Richard Willcox.
Furnace, stove, or fireplace, which is conveniently applicable to the burning of limestone, at the same time that it is used for heating corn-kilns, &c.	2677	29th Jan. 1803	Edward Stephens.
Portable furnace of cast-iron, forged or plate iron, } or other metals - - - - - }	3287	14th Dec. 1809	{ John Murray. Adam Anderson.
Construction of furnaces for sugar-making - -	3771	20th Dec. 1813	John Sutherland.
Construction of furnaces for distilling - - -	3878	28th Jan. 1815	John Miller.
Fireplaces or furnaces for heating ovens and boilers, and the water or other liquids contained in such boilers.	3905	8th April 1815	William Losh.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Construction of furnaces or fireplaces for the purpose of heating, boiling, or evaporating water or other liquids.	4325	24th Dec. 1818	William Johnson.
Construction of air-furnaces in general, for the saving of fuel or consumption of smoke.	4646	12th Feb. 1822	George Holworthy Palmer.
Furnaces and other inventions for the consumption of fuel.	4744	26th Dec. 1822	George Richards.
Constructing furnaces for smelting metals, for distilling, brewing, dyeing, sugar and soap making, and for producing steam.	4746	8th Jan. 1823	James Neville.
Constructing and erecting furnaces or kilns for making lime and coke by the same heat in one building.	5034	11th Nov. 1824	Charles Heathorn.
Furnace - - - - -	5037	11th Nov. 1824	Pierre Brunet.
Construction of furnaces - - - - -	5257	15th Sept. 1825	Charles Jacomb.
Construction of furnaces so that they may consume their own smoke.	5601	15th Jan. 1828	James Gilbertson.
Construction of furnaces for generating heat - -	6026	4th Nov. 1830	Joel Benedick Nott.
Construction of furnaces for generating heat - -	6205	22nd Dec. 1831	Joel Benedick Nott.
Construction of furnaces for generating heat - -	6508	19th Nov. 1833	John Cooper Douglass.
Furnaces - - - - -	6672	2nd Sept. 1834	John Chanter.
A new combination of parts, forming an improved furnace for consuming smoke and economizing fuel - - - - -	6920	2nd Nov. 1835	{ John Chanter. John Gray.
Construction of apparatus used in the decomposition of salt, and mode of using the same [retort or furnace].	7208	13th Oct. 1836	Thomas Lutwyche.
Furnaces;—partly applicable to other purposes -	7242	3rd Dec. 1836	John Perkins.
Apparatus for decomposing common salt; conducting the process [decomposing furnace and flue].	7267	24th Dec. 1836	William Gossage.
Furnace for economizing fuel, consuming smoke or gases arising therefrom; the same being applicable for the generation of steam and for heating or evaporating fluids.	7426	31st Aug. 1837	James Neville.
Furnaces - - - - -	7535	23rd Dec. 1837	Jehiel Frankling Norton.
Furnaces - - - - -	7603	26th March 1838	Julius Jeffreys.
Construction of furnaces - - - - -	7824	8th Oct. 1838	John Bourne.
Furnaces, and apparatus for making the same -	7825	8th Oct. 1838	Jehiel Forbes Norton.
Furnaces for the consumption of fuel - - -	7861	8th Nov. 1838	Henry Huntley Mohun.
Combination of parts, forming a furnace for consuming smoke and economizing fuel, applicable to steam-engine boilers and other furnaces.	7974	21st Feb. 1839	Thomas Hall.
Erection of furnaces and works connected with the manufacture of salt-cake or sulphate of soda, and hydrochloric or other acids, and alkalies or other chemical processes wherein deleterious vapours are given off.	7998	8th March 1839	Edward Ford.
Furnaces - - - - -	8095	6th June 1839	Charles Andrew Caldwell.
Furnaces for economizing fuel and heat - - -	8116	22nd June 1839	Charles Wye Williams.
Construction of furnaces - - - - -	8244	19th Oct. 1839	James Yates.
Furnaces - - - - -	8257	2nd Nov. 1839	Henry Venner Cocks.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Furnaces for the better consuming of fuel - -	8307	9th Dec. 1839	John Jukes.
Construction of furnaces - - - - -	8370	31st Jan. 1840	Philippe Marie Moindron.
Furnaces - - - - -	8600	8th Aug. 1840	Samuel Howard.
Construction of furnaces - - - - -	8688	5th Nov. 1840	Andrew Kurtz.
Construction of furnaces - - - - -	8708	17th Nov. 1840	Charles Wye Williams.
Furnaces - - - - -	8716	25th Nov. 1840	Junius Smith.
Furnaces or fireplaces - - - - -	8829	3rd Feb. 1841	Thomas Young.
Construction and arrangement of furnaces applicable to various purposes.	8934	24th April 1841	Floride Heindryckx.
Furnaces - - - - -	9063	4th Sept. 1841	Michael Coupland.
Furnaces or fireplaces - - - - -	9067	4th Sept. 1841	John Jukes.
Construction of furnaces - - - - -	9215	11th Jan. 1842	Charles Wye Williams.
Furnaces - - - - -	9293	10th March 1842	William Edward Newton.
Furnaces - - - - -	9476	22nd Sept. 1842	John Jukes.
Furnaces, and methods of feeding and working the same.	9516	8th Nov. 1842	Henrik Zander.
Manufacture of glass [furnaces used in the manufacture.]	9615	6th July 1843	James Hartley.
Construction of furnaces - - - - -	9885	28th Sept. 1843	Elisha Haydon Collier.
Furnaces - - - - -	9899	5th Oct. 1843	John George Bodmer.
Construction of furnaces or fireplaces - - -	9911	18th Oct. 1843	Julius Adolphe Detmold.
Furnaces or fireplaces - - - - -	9925	4th Nov. 1843	William Edward Newton.
Furnaces or fireplaces - - - - -	9936	9th Nov. 1843	George Holmes.
Furnaces - - - - -	10,049	12th Feb. 1844	William Edward Newton.
Furnaces or fireplaces - - - - -	10,107	14th March 1844	Moses Poole.
Construction of furnaces - - - - -	10,254	10th July 1844	William Bedington, junior.
Construction of furnaces - - - - -	10,269	24th July 1844	General George Wilson.
Furnaces - - - - -	10,309	12th Sept. 1844	{ John Chanter. George Lodge.
Furnaces - - - - -	10,531	20th Feb. 1845	Samuel Hall.
Construction of furnaces and apparatus for evaporating or concentrating sulphuric acid.	11,052	20th Jan. 1846	Andrew Kurtz.
Construction of furnaces used for heating water and other fluids.	11,156	1st April 1846	William Spiby.
Construction of furnaces - - - - -	11,266	29th June 1846	Joseph Moreland.
Furnaces and flues; machinery connected therewith	11,415	15th Oct. 1846	James Kite.
Furnaces and apparatus to render atmospheric air available in producing cyanides and other compounds;—applicable to other purposes [sealed 30th January 1847, but dated 8th October 1846].	11,553	30th Jan. 1847	Thomas Bramwell.
Furnaces - - - - -	11,562	8th Feb. 1847	George Grundy.
Self-feeding furnaces, adapted for both land and marine purposes, for the better prevention of smoke arising from fires in such furnaces.	11,628	18th March 1847	James Wills Wayte.
Construction of furnaces - - - - -	11,704	18th May 1847	Thomas Hazeldine.
Furnaces - - - - -	12,043	27th Jan. 1848	John Collins.
Evaporating furnaces - - - - -	12,049	2nd Feb. 1848	James Blackwell.
Furnaces - - - - -	12,067	14th Feb. 1848	{ James Timmins Chance. Edward Chance.
Furnaces - - - - -	12,087	8th March 1848	George Lloyd.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Furnaces - - - - -	12,174	3rd June 1848	Henry Adcock.
Construction and arrangement of furnaces - -	12,180	16th June 1848	George Emmott.
Construction of furnaces and fireplaces - - -	12,204	6th July 1848	William Edward Newton.
Furnaces - - - - -	12,224	29th July 1848	John Grist.
Application, removal, and compression of atmospheric air [ <i>constructing furnaces and applying air</i> ].	12,313	2nd Nov. 1848	Thomas John Knowlys.
Furnaces - - - - -	12,332	18th Nov. 1848	John Jukes.
Furnaces - - - - -	12,374	16th Dec. 1848	Joseph Deeley.
Furnaces - - - - -	12,428	18th Jan. 1849	Thomas Newcomb.
Manufacture of glass, and preparation of certain materials to be used therein [ <i>furnaces for making glass</i> ] - - - - -	12,505	5th March 1849	{ William Henry Balmain. Edward Parnell.
Furnaces - - - - -	12,533	24th March 1849	John Macintosh.
Furnaces for economizing heat - - - - -	12,536	26th March 1849	Stephen White.
Improvements applicable to furnaces of every description - - - - -	12,562	3rd April 1849	{ James Godfrey Wilson. William Pidding.
Regulation of furnaces;—partly applicable to other similar purposes - - - - -	12,703	10th July 1849	{ George Augustus Robinson. Richard Egan Lee.
Furnaces - - - - -	12,782	20th Sept. 1849	Elijah Galloway.
Furnaces, or means of consuming smoke - - -	12,797	12th Oct. 1849	{ Joseph Johnson. Joe Cliffe.
Construction of furnaces - - - - -	13,082	25th May 1850	Edwin Pettitt.
Construction of furnaces, and apparatus or machinery applicable thereto.	13,251	5th Sept. 1850	James Rennie.
Furnaces - - - - -	13,305	2nd Nov. 1850	Joseph Christian Davidson.
Furnaces - - - - -	13,312	2nd Nov. 1850	John Slate.
Furnaces - - - - -	13,396	7th Dec. 1850	David Lloyd Williams.
Furnaces - - - - -	13,432	28th Dec. 1850	Thomas Symes Prideaux.
Furnaces - - - - -	13,744	11th Sept. 1851	David Main.
Manufacture of glass [ <i>furnace</i> ] - - - - -	14,048	29th March 1852	James Timmins Chance.
Furnaces; treating and utilizing certain products of combustion.	14,139	22nd May 1852	Johann Stierba.
<b>V.—Stove Furniture (Fronts, Bars, Guards, Receivers, &amp;c.).</b>			
Preserving ornaments of stoves or grates from being discoloured or damaged.	1122	25th March 1776	William Hopkins.
Forge-back, tow iron and frame for conveying wind by the blast of bellows or otherwise.	1362	25th March 1783	John Bradley.
Metal mountings for grates - - - - -	1373	24th May 1783	William Playfair.
Making plated furniture for stoves and grates, with or without glass ornaments.	1400	15th Nov. 1783	John Horsley.
Ornamenting all manner of stove-fronts, fenders, shovels, tongs and pokers, with foil stones, Bristol stones, paste, and all sorts of pinched glass, sapped glass, and every other stone, glass, and composition used in or applicable to the jewellery trade.	1552	5th Aug. 1786	John Skidmore.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Iron backs adapted to stoves and grates used in fireplaces in rooms, which, by rarefying the air in the chimney, accelerates and impels the ascension of the smoke, causes the fire to burn freely and clearly, and to give greater heat than in stoves or grates without such backs.	1765	28th July 1790	William Redman.
Fire-extinguisher and fire-guard, as well for the purpose of extinguishing fires in stoves, grates, and ranges with expedition, as also to prevent the frequent accidents of fires from stoves, grates, and ranges, and the methods at present used for extinguishing fires made therein.	2008	16th Aug. 1794	John Keylock.
Machine for saving fuel and preventing dirt and dust from fires [ <i>economical receiver</i> ].	2235	3rd May 1798	George Blundell.
Constructing and moving the back and bottom of fire-grates, combined with cheeks on a new construction, and particularly adapted for kitchen-ranges, effecting a great saving of coals.	2344	3rd Oct. 1799	Anthony George Eckhardt.
Receiver for the cinders and ashes of register and other stoves.	3057	4th July 1807	William Bound.
Iron bar for furnaces, fireplaces, boilers, hothouses, and any other fireplace where bars are used.	3061	13th July 1807	James Bradly.
Machine or instrument to be applied to stoves or grates for preventing accidents by fire, and whereby the fires in stoves or grates may be put out and extinguished with safety and facility.	3220	28th March 1809	James Younie.
Apparatus to be attached to fire stoves for rooms, for the purpose of removing cinders and ashes, and preventing dust arising therefrom.	3518	20th Jan. 1812	John Raffield.
Making stamped stove-fronts - - - - -	3800	7th April 1814	Isaac Mason.
Apparatus to be attached to fire-stoves for rooms, for the purpose of removing cinders and ashes, and for the better prevention of dust; to be used jointly or separately.	4091	10th Jan. 1817	John Raffield.
Building, constructing, or erecting the roofs, or upper parts of furnaces used for the smelting of copper and other ores, or any of their metals, and for other purposes requiring strong fires.	4168	3rd Oct. 1817	William Harry.
Constructing fire or furnace bars or gratings -	4210	27th Jan. 1818	James Ikin.
Screen for intercepting the radiant heat arising from boilers and cylinders of steam-engines.	7164	9th Aug. 1836	Thomas John Fuller.
Construction of air-tubes connected with stoves -	9026	13th July 1841	{ William Henry Phillips. David Hickinbotham.
Fire-bars for furnaces - - - - -	10,309	12th Sept. 1844	{ John Chanter. George Lodge.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>ash-boxes</i> ].	11,149	25th March 1849	Charles Smith.
Fire-bars of furnaces - - - - -	13,246	5th Sept. 1850	{ William Erskine Cochrane. Henry Francis.
<b>VI.—Fenders and Fire-irons.</b>			
Making plates for fenders by mill work - - -	229	15th Nov. 1083	{ William Palin. William Loggins.
Plated fire-irons, pokers, shovels, and fenders -	1795	3rd March 1791	James Beesley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Making fire-irons - - - - -	1947	12th April 1793	Samuel Bentham.
Making and manufacturing of iron and steel (or both united) fender-plates and other articles -	2134	25th Aug. 1796	{ Arnold Wilde. Joseph Ridge.
Fire-irons - - - - -	3526	23rd Jan. 1812	George Babb.
Fender for fireplaces - - - - -	3635	15th Jan. 1813	Thomas Ryland.
Fender for fireplaces - - - - -	3800	7th April 1814	Isaac Mason.
Fenders, capable of being extended or contracted in length, so as to fit fireplaces of different dimensions.	4728	23th Nov. 1822	Henry Ibbotson.
Making fenders of brass, iron, or steel - - -	4701	15th May 1823	Edward Eyre.
Making fenders and fire-iron rests - - -	4845	11th Sept. 1823	James Sprigg, senior.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>fenders and fire-irons</i> ].	11,149	25th March 1846	Charles Smith.
Fender - - - - -	14,007	8th March 1852	Augustus Turk Forder.
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<b>VII.—Ovens and Kilns.</b>			
Making kilns for the burning of bricks, tiles, earthen pots, and lime.	83	25th June 1635	Captain Thornesse Francke.
Making kilns for drying malt and hops with sea-coal, turf, or any other fuel, without touching smoke, and very useful for baking, boiling, roasting, starching, and drying linen, all at one and the same time, and with one fire.	85	23rd July 1635	Nich'as Halse.
Making ovens for the use of bakers, cooks, and others, and in such a manner that they may be heated with sea-coal or other coal.	86	2nd Oct. 1635	Henry Sibthorp.
Making and erecting ovens for saving of wood -	94	23rd June 1636	{ Robet Lyndsey. John Hobart.
Kilns for the drying of malt, wheat, beans, peas, oats, flax, hemp, yarn, hats, and hops, or whatsoever grain may be dried with fire, with sea-coal, turf, peat, or any other the meanest fuel, as also of certain ovens and other inventions, to be used together with the said kilns, as part thereof, or of themselves alone; very necessary for baking, boiling, roasting, starching, and drying linen and other like conveniences, all at one and the same fire, and at the same time.	102	7th Feb. 1637	Thomas Earl of Berks.
Kiln to dry malt with hot air - - - - -	429	10th May 1720	John Busby.
Kiln for drying malt - - - - -	613	18th April 1745	{ John Kay. Joseph Stell.
Moveable iron oven, which may be set in any room without danger of fire.	644	9th Dec. 1769	Richard Hornbuckle.
Iron oven, with a grate and regulator to place behind a common range fire, for culinary purposes - - - - -	1043	23rd April 1773	{ Matthew Glenton. William Clemetshaw.
Kiln and oven for the purpose of saving great part of the expense employed in burning lime, as also in the several branches of the distilling and brewing business, and for other beneficial purposes where the use of fire is concerned.	1310	1st Jan. 1782	Henry Seymour Conway.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Malt and oat kiln, of cast metal, upon a construction entirely new, far superior to anything of the kind at present in use, both for a considerable saving of coals and time; and also bottoms for bakers' ovens, of the same metal.	1395	14th Nov. 1783	Richard Clarke.
Oven for baking bread and all kinds of victuals -	1656	30th June 1788	John Naylor.
Construction of coke ovens - - - - -	1689	23rd June 1789	The Right Hon. Henry Seymour Conway.
Kiln for the purpose of drying malt or any other grain, on an entirely new plan, and constructed to dry the same quantity of malt or other grain with one-sixth part only in the expense of fuel now used in other kilns; and cinders, sleek, wood, turf, peat, or any other article of fuel, will equally answer the purpose required; the sulphureous damp or effluvium, so pernicious in the present kilns, is conducted away, that the workmen may, with pleasure and comfort, continue in any part of the work, and their health not the least injured or affected; and the heat may with the greatest ease be increased or decreased to any necessary degree, and regularly conducted to every part of the drying floor.	2116	9th June 1796	John Pepper.
Constructing, erecting, and making ovens, kilns, and fireplaces so as to effect a saving of fuel in the firing, hardening, and baking of porcelain, chinaware, and earthenware - - - - -	2127	5th July 1796	{ Valentine Close. James Keating.
Building and constructing ovens and kilns for the firing and burning of china, earthenware, bricks, tiles, and other earths and compositions, whereby a very material saving will be made in the consumption of fuel, and other important benefits will arise to the manufactures; particularly by a more equal diffusion of heat, and by a more regular and certain manner of firing such ware and articles over and above the kilns and ovens now or hitherto made use of.	2140	3rd Oct. 1796	John Pepper.
Making portable ovens - - - - -	2394	1st May 1800	{ Robert Darly. Morgan Nichols.
Portable oven - - - - -	2473	5th Feb. 1801	James Power.
Oven, stove, or apparatus for extracting inflammable air, oil, pitch, tar and acids, from all kinds of fuel, and reducing the same into coke and charcoal.	2784	18th May 1804	Frederic Albert Winsor.
Malt-kilns, so as to prevent damages from fire, and to save fuel in the drying of malt.	2818	29th Jan. 1805	James Barrett.
Oven, stove, furnace, or apparatus for extracting inflammable air and oil from fuel, for acetous and ammoniacal liquors; reducing fuel into coke and charcoal; purifying such air or gas of its odour during a state of combustion.	3016	20th Feb. 1807	Frederic Albert Winsor.
Oven, stove, or apparatus for carbonizing raw fuel and combustibles, and reducing them into superior fuel of coke and charcoal; extracting during the same process the oil, acids, and gas; and extracting and refining all the inflammable air or gas, so as to deprive it of all disagreeable odour during combustion, and render it fit for human respiration when diluted with atmospheric air.	3113	3rd March 1808	Frederic Albert Winsor.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Oven, stove, or apparatus for carbonizing raw fuel and combustibles, and reducing them into superior fuel of coke and charcoal; extracting during the same process the oil, acids, and gas; and extracting and refining all the inflammable air and gas, so as to deprive it of all disagreeable odour during combustion, and render it fit for human respiration when diluted with atmospheric air.	3200	7th Feb. 1809	Frederic Albert Winsor.
Kiln for burning coke and lime "The union or perpetual kiln".	3205	13th Feb. 1809	James Grellier.
Erecting lime-kilns, whereby a very considerable saving is made in fuel, and the lime most perfectly burnt in a short time; denominated "Grellier and Booker's lime-kilns".	3234	9th May 1809	Nugent Booker.
Perpetual oven, for making all kinds of bread	3337	15th May 1810	Sir Isaac Coffin, Knt.
Kilns for the purpose of drying malt, wheat, oats, } barley, peas, beans and other substances, by } means of steam assisted by air - - - - }	4133	10th June 1817	{ Thomas Whittle. George Eyton.
Certain improvements in the burning of stone-ware and brown-ware in kilns or ovens, by carrying up the heat and flame from the furnace or fire below to the middle and upper parts of the kiln or oven, either by means of flues or chimneys in the sides thereof, or by moveable pipes or conductors to be placed within such kilns or ovens; and also by increasing the heat in kilns or ovens, by the construction of additional furnaces or fires at the sides thereof, and to communicate with the centre or upper parts of such kilns or ovens; and also by conveying the flame and heat of one kiln or more into another or others, by means of chimneys or flues, and thus permitting the draught and smoke of several kilns or ovens to escape through the chimneys of a central kiln or oven of great elevation, whereby the degree of heat is increased in the several kilns or ovens, and the quantity of smoke diminished.	4871	22nd Nov. 1823	Joseph Bourne.
Constructing and placing a coke oven under or near to boilers, so as to make the heat from the coke useful for heating the boilers also, and so that such heat may be excluded if necessary.	4914	28th Feb. 1824	Maurice De Jough.
Cooking apparatus [ <i>portable oven, heated by a lamp</i> ]	5283	8th Feb. 1825	William Erskine Cochrane.
Cooking apparatus [ <i>portable oven and steam-boiler heated by a lamp</i> ].	5608	15th Jan. 1828	William Erskine Cochrane.
Construction and setting of ovens for carbonizing coal for use in gas-works.	5624	6th March 1828	Barnard Henry Brook.
Ovens - - - - -	7687	2nd June 1838	Joseph Green.
Constructions of ovens - - - - -	7923	27th Sept. 1838	John White.
Coke ovens - - - - -	8071	22nd May 1839	John Walker.
Construction of ovens applicable to the manufacture of coke.	8709	21st Nov. 1840	John Cox.
Combination of materials for making bricks, tiles, pottery, and other useful articles, and a machine or machinery for making the same, also a new mode or process of burning the same; which machine or machinery, and mode or process of burning, are also applicable to the making and burning of other description of bricks, tiles, and pottery [ <i>a circular kiln</i> ].	8945	29th April 1841	Joseph Gibbs.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Building and constructing ovens used by potters and china manufacturers in the firing of their wares - - - - -	9161	20th Nov. 1841	{ John Venables. John Tunnicliff.
Kilns or apparatus for drying hops, malt, and other substances - - - - -	9767	10th June 1843	Samuel John Knight.
Construction of ovens - - - - -	10,573	20th March 1845	Louis Theodore Maillard Rochet.
Constructing the interior arrangement of ovens used by manufacturers of china and earthenware -	10,687	24th May 1845	{ Jeremiah Simpson. Joshua Seddon.
Ovens for producing coke - - - - -	11,010	20th Dec. 1845	Jabez Church.
Building and constructing kilns or ovens used by potters and manufacturers of china and earthenware.	11,107	25th Feb. 1846	John Maddock.
Manufacture of glass and other vitreous products [kilns] - - - - -	11,118	5th March 1846	{ William Nicholson. George Wadsworth.
Apparatus for the manufacture of bricks; arrangements for the manufacture of bricks, tiles, and similar articles from clay and other plastic substances [kilns for burning].	11,155	31st March 1846	John Ainslie.
Ovens for kitchen-ranges - - - - -	11,375	17th Sept. 1846	Frederick Brown.
Construction of flattening kilns - - - - -	11,384	24th Sept. 1846	Henry Deacon.
Working coke and other kilns or ovens - - - - -	11,596	24th Feb. 1847	Frederick Ransome.
Kilns for drying and burning bricks and tiles - -	11,682	29th April 1847	William Carter Stafford Percy.
Manufacture of glass [furnaces or kilns] - - -	11,749	15th June 1847	James Timmins Chance.
Kiln or oven for firing porcelain and other similar ware.	11,824	29th July 1847	Alfred Vincent Newton.
Kilns for burning stone-ware and brown-ware -	11,831	4th Aug. 1847	Joseph Bourne.
Apparatus for opening and closing oven doors;—partly applicable to other purposes.	11,992	8th Dec. 1847	John Britten.
Kilns and other apparatus for preparing vegetable substances.	12,043	27th Jan. 1848	John Collins.
Construction and arrangement of ovens - - -	12,190	16th June 1848	George Emmott.
Kilns for burning bricks, tiles, and other earthen substances.	12,213	18th July 1848	William Swain.
Construction of coke ovens and machinery or apparatus to be connected therewith.	12,329	16th Nov. 1848	William Wilkinson.
Ovens - - - - -	12,374	16th Dec. 1848	Joseph Deeley.
Coke ovens, and machinery and apparatus connected therewith.	12,456	8th Feb. 1849	Henry Fisher.
Construction of baking ovens; machinery for working or using the same.	12,553	23rd March 1849	Thomas Harrison.
Regulation of ovens;—partly applicable to other similar purposes - - - - -	12,703	10th July 1849	{ George Augustus Robin- son. Richard Egan Lee.
Fireplaces and flues, and apparatus connected therewith [ovens].	13,022	23rd March 1850	Edward Welch.
Construction of annealing kilns - - - - -	13,062	25th May 1850	Edwin Pettit.
Lime and other kilns and furnaces - - - - -	13,305	2nd Nov. 1850	Joseph Christian Davidson.
Annealing articles of iron and other materials [ovens for annealing wire].	13,480	31st Jan. 1851	Richard Johnson.
Constructing ovens - - - - -	13,510	11th Feb. 1851	Angier March Perkins.
Obtaining light and heat [constructing ovens] -	13,783	22nd Oct. 1851	{ William Boggett. George Holworthy Palmer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FIREPLACES, &amp;c.—continued.</b>			
Constructing ovens or kilns for burning or firing bricks, tiles and quarries, and other articles of pottery and earthenware.	13,803	4th Nov. 1851	Robert Beswick.
Process, composition, or combination of materials, also machinery and apparatus, for making bread and biscuits; part of which machinery is applicable to mixing and kneading plastic substances in general [ <i>ovens for baking the same</i> ].	14,080	27th April 1852	William Exall.
Coke ovens, and apparatus connected therewith -	14,210	6th July 1852	John Andrews.
Baking bricks, tiles, and other kinds of pottery or earthenware [ <i>kilns</i> ].	14,218	13th July 1852	James Baron Palm.
Machinery for manufacturing bricks and tiles [ <i>kilns for burning the same</i> ].	14,234	20th July 1852	James M'Henry.
Treatment of the residual products of gas and of the distillation of coal or other similar substances, and of the coking of coal [ <i>ovens wherein coal-gas and heavy coke are simultaneously produced</i> ].	14,280	12th Aug. 1852	Richard Laming.
Construction of kilns for burning or calcining cement, chalk, limestone, and other substances requiring such process; application of the heat arising therefrom to the generation of steam -	14,337	23rd Oct. 1852	{ James Lamb. Joseph Menday.
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<b>FISH-HOOKS AND HARPOONS;—CATCHING AND CONVEYING FISH.</b>			
Fish-call, or a looking-glass to lure fishes to nets, spears, or hoops.	59	20th July 1632	Thomas Grent.
Bringing salmon alive and well-conditioned from Newcastle, Berwick, and other parts, to London }	156	5th Feb. 1668	{ Walter Underhill, senior. Walter Underhill, junior. Samuel Walton.
Taking fish by means of a light burning some fathoms under water, and another burning above the water, by means of which the fish within the compass of a league can be drawn to one place, and thereby more easily taken - - - }	295	22nd April 1692	{ John Williams. Humphrey Marwood.
Engine for taking fish - - - - -	593	14th Sept. 1743	James Hamilton.
Machine for catching fish - - - - -	881	30th July 1767	William Cobb.
Harpoon for catching whales - - - - -	1367	7th May 1783	Nathaniel Bayles.
Fish-hooks of a superior strength, colour, and polish.	1719	23rd Dec. 1789	John Andrews.
Making and manufacturing fish-hooks - - -	2063	8th Sept. 1795	William Bell.
Applying flat or round ropes, lines, bands, or belts, for catching and detaining whales.	3157	30th July 1808	John Carr,

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FISH-HOOKS, &amp;c.—continued.</b>			
Art of killing and capturing whales and other animals [ <i>by discharging rockets at the same</i> ] - }	4563	7th June 1821	{ Sir William Congreve, Bart.
Method and apparatus for attracting and catching fish [ <i>by a lamp and reflectors placed under the water</i> ].	4582	14th Aug. 1821	{ James Nisbet Colquhoun.
Catching mackerel and other fish - - - -	4815	15th July 1823	Jean Frederic Marquis de Chabannes.
Instrument or apparatus to be used in whale fishery; part or parts of which, upon an increased scale, are also applicable as a motive-power for driving machinery.	8541	11th June 1840	Sir Isaac Coffin, Bart.
Manufacturing certain materials as substitutes for whalebone; machinery for effecting the same [ <i>rolled or twisted strips of metal used in fishing-rods</i> ].	9851	24th July 1843	William Lance.
Harpoons and other similar instruments - -	10,914	3rd Nov. 1845	Joseph Daniel Davidge.
Fish-hooks - - - - -	11,520	7th Jan. 1847	Paul Ackerman.
			Moses Poole.
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<b>FRAMES FOR PICTURES AND LOOKING-GLASSES.</b>			
<b>Making, ornamenting, and suspending.</b>			
Chasing frames for pier-glasses, in lead - - -	1068	14th April 1774	William Storer.
Ornamenting picture-frames and other kinds of furniture with carved and moulded glass in relief, plain or coloured;—applicable to many purposes.	1566	7th Nov. 1786	Thomas Rogers.
Making frames for pictures and other things - -	1576	14th Dec. 1786	Obadiah Westwood.
Making looking-glass frames and picture-frames -	1577	19th Dec. 1786	Valentine Gottlieb.
Apparatus by means of which several drawings may be contained and exhibited in one frame.	1934	27th Feb. 1793	James Hitchcock.
Making picture frames; frames for pier and other glasses.	3809	31st Oct. 1812	Benjamin Cook.
Making picture-frames - - - - -	5691	28th Aug. 1828	Benjamin Ager Day.
Apparatus for suspending paintings - - -	6471	15th April 1840	William Potts.
Manufacture of frames - - - - -	8605	17th Aug. 1840	John Young.
Manufacture of picture and other frames;—applicable to other useful and decorative purposes [ <i>by means of voltaic electricity</i> ].	8865	8th March 1841	Thomas Spencer.
Composition for ornamenting picture-frames and articles for interior and other decorations.	9275	4th March 1842	James Clements.
Suspending swing looking-glasses and other articles requiring like movements.	9801	26th Jan. 1843	Charles Frederick Bielefeld.
Apparatus for regulating the inclination of looking-glasses.	9740	25th May 1843	Sarah Beadon.
Preparing materials for making picture and other frames.	10,344	10th Oct. 1844	Joseph Eugène Chabert.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FRAMES FOR PICTURES, &amp;c.—continued.</b>			
Apparatus for suspending looking-glasses and other articles.	10,381	22nd Oct. 1844	George Osmond.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of picture-frames</i> ] - - - - -	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Regulating motion and controlling friction in the joints and other parts of furniture, machinery, and carriages [ <i>rendering looking-glasses adjustable</i> ].	11,708	22nd May 1847	Charles Chinnock.
Manufacture of picture-frames and other articles in dies or moulds; also producing ornamental surfaces.	12,587	26th April 1849	Charles Iles.
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<b>FRICTION,—DIMINISHING AND DESTROYING.</b>			
Reducing friction in the draught of wheeled carriages.	543	1st Feb. 1734	Jacob Rowe.
Method for the improvement of mechanics and hydraulics, by diminishing friction.	558	17th June 1737	David Stephenson.
Reducing friction in sugar-mills by application of friction-wheels - - - - -	882	21st Nov. 1766	{ John Greenhill Yonge. Alexander Barclay.
Method of reducing the friction of an axis or fulcrum; useful for wheels, beams, levers, pendulums, blocks, pulleys, and other instruments that have a partial, total, or repeated revolution or oscillation.	1580	6th Jan. 1787	John Garnett.
Destroying friction in wheeled carriages, capstans, and windlasses; also in horizontal, perpendicular, or oblique axes of water-mills and windmills.	1602	12th May 1787	Watkin George.
Overcoming resistance in mechanical operations by man or beast - - - - -	1646	15th April 1788	{ William Johnson. Mark Noble.
Reducing friction to its least degree - - - - -	1740	31st March 1790	James Stuard.
Appropriating certain mechanical powers to the reduction of friction in shafts, pivots, gudgeons, cranks, rollers, axles, and axletrees.	1829	12th Oct. 1791	John Sharples.
Instrument to lessen friction in wheeled carriages -	1991	24th May 1794	John Lewis De Lolme.
Machine to reduce the labour of animals when employed in operations of draught or burden.	2109	6th April 1796	Samuel Godfrey.
Easing the draught of carriages - - - - -	2260	10th Nov. 1798	{ Edward Shorter. William Anthony.
Apparatus of chains, wheels, rollers, and conductors, for lessening friction in raising, lowering, driving, and conducting heavy bodies, and for other purposes - - - - -	2359	28th Nov. 1799	{ James Fussell. James Douglas.
Constructing and employing separately several of the parts of machines, such as wheels, pistons, and apparatus, for reducing friction upon new principles.	2472	5th Feb. 1801	Joseph Gaston John Baptiste Count de Thiville.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FRICTION, &amp;c.—continued.</b>			
Apparatus for diminishing friction . . . .	2515	18th June 1801	William Seller.
Easing the draught of coaches, carts, waggons, drays, and all land carriages whatsoever.	2536	12th Sept. 1801	Thomas German.
Anti-friction rollers or wheels, to assist carriage-wheels.	2968	20th Nov. 1806	John William Lloyd.
Applying friction-boxes, with or without a perpetual screw-spindle and cog-wheel, to extend and facilitate the power of engines, cranes, capstans, machines for raising anchors and other great weights or bodies, and to the steerage-wheels of ships.	3022	20th March 1807	John Day.
Reducing friction in axletrees, axletree-boxes, and other such moving parts of machinery.	3616	26th Nov. 1812	Joseph Bramah.
Easing the draught of land carriages . . . .	3927	26th July 1814	William Doncaster.
Removing friction in wheel carriages and machinery of different descriptions.	4110	11th March 1817	William Panter.
Axletrees to remedy the extra friction on curves to waggons, carts, cars, and carriages used or to be used on railways, tramways, and other public roads.	5325	23rd Jan. 1826	Robert Stephenson.
Diminishing friction in wheeled carriages, water-wheels, and other rotary parts of machinery.	5542	15th Aug. 1827	William Spong.
Diminishing friction in wheeled carriages to be used in rail and other roads.	5756	30th May 1829	Rosa Winans.
Application of a composition, paste, or materials, as an anti-attrition for bearings of wheels and machinery.	6945	7th Dec. 1835	Nathaniel Partridge.
Apparatus to be added to wheels to ease the draught of carriages on turnpike and common roads.	7093	13th May 1836	John Ashdowne.
Reducing the friction of axletrees, axletree-boxes, and other such moving parts of machinery.	8067	13th May 1839	Moses Poole.
Reducing friction of machinery used in propelling vessels, lathes, and other machines.	8204	23rd Aug. 1839	William Coles.
Reducing friction in wheels of carriages; applicable to bearings and journals of machinery.	8333	3rd Jan. 1840	Charles Greenway.
Reduction of friction in machinery . . . .	9473	16th Sept. 1842	William Henry James.
Reduction of friction in axles . . . .	9928	7th Nov. 1843	William Rowan.
Applying apparatus to carriages to facilitate the draught.	11,357	29th Aug. 1846	James Boydell.
Diminishing draught and friction in carriages .	11,373	17th Sept. 1846	Henry Wrigg.
Regulating motion and controlling friction in the joints and other parts of furniture, machinery, and carriages.	11,706	22nd May 1847	Charles Chinnock.
Accelerating menatrite locomotion . . . .	12,163	13th June 1848	John Miller.
Improvements applicable for reducing the friction of axles, journals, bearings, and other rubbing surfaces in machinery.	12,338	23rd Nov. 1848	Christian Schiele.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FUEL.</b>			
<b>I.—Making, combining, screening, and sifting.</b>			
Machine for purifying fossil coal - - - - -	1041	21st April 1773	John Barber.
Purifying fossil coal - - - - -	1928	22nd Dec. 1792	John Barber.
Machine for separating coals; composition for making small coals into cakes or bricks, to be used for fuel.	2364	16th Dec. 1799	Jean Frederic Chabannes.
Fuel - - - - -	2403	20th May 1800	Peter Davey.
Machinery for sifting cinders and then discharging them into a convenient receptacle;—applicable to other useful purposes.	4309	12th Nov. 1818	William Styles.
Preparation of coal for fuel [ <i>small coal with tar</i> ] -	4597	18th Oct. 1821	Peter Davey.
Method of combining and using fuel in stoves, } furnaces, boilers, and steam-engines - - - }	4848	9th Oct. 1823	{ John Christie. Thomas Harper.
Combining and applying certain kinds of fuel -	4909	28th Feb. 1824	{ John Christie. Thomas Harper.
Combination of fuel - - - - -	5151	20th April 1825	Thomas Sunderland.
Combination of materials to be used as fuel [ <i>dry dung, sawdust, bark, &amp;c., ground and made into cakes, and steeped in coal tar</i> ].	5362	8th May 1826	Levy Zachariah, junior.
Fuel - - - - -	6501	2nd Nov. 1833	Dominick Stafford.
Manufacturing fuel - - - - -	7201	4th Oct. 1836	Henry Huntley Mohun.
Operating for the purpose of converting peat moss and peat turf or bog into fuel, and obtaining from it tar, gas, and certain other substances or matters.	7296	6th Feb. 1837	Michael Linning.
Means of preparing peat moss or bog to render it applicable for several useful purposes, particularly for fuel.	7468	11th Nov. 1837	Charles Wye Williams.
Manufacture of fuel - - - - -	7604	26th March 1838	Thomas Oram.
Prepared fuel - - - - -	7627	26th April 1838	Richard Goodwin.
Preparation of fuel - - - - -	7654	28th May 1838	Stephen Geary.
Means of preparing peat moss or bog to render it applicable for several useful purposes, particularly for fuel.	7744	26th July 1838	Charles Wye Williams.
Composition and manufacture of fuel - - -	7861	8th Nov. 1838	Henry Huntley Mohun.
Methods of producing or manufacturing certain inflammable substances; applying the light and heat obtained from certain inflammable substances to various useful purposes [ <i>obtaining a fuel by mixing tar or bituminous coal with inferior coal-dust or anthracite</i> ].	8141	3rd July 1839	Alexander Cruickshanks.
Compressing peat - - - - -	8160	20th July 1839	Peter Robert Drummond Lord Willoughby De Eresby.
Mortar or cement for building, also for mouldings, castings, statuary, tiles, pottery, imitation of soft and hard rocks, and for other useful purposes [ <i>may also be used as fuel</i> ].	8391	22nd Feb. 1840	Thomas Kerr.
Preparing and combining materials used in lighting or kindling fires.	8405	29th Feb. 1840	Richard Edwards.
Manufacture of fuel - - - - -	8439	20th March 1840	Thomas Stirling.
Manufacture of fuel - - - - -	8569	13th July 1840	Thomas Tassell Grant.
Improvements partly applicable to compressing peat and other materials.	8772	6th Jan. 1841	George Child.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FUEL—continued.</b>			
Combination of materials and processes in the manufacture of fuel.	8826	1st Feb. 1841	Dominic Frick Albert.
Manufacture of fuel - - - - -	9019	7th July 1841	William Edward Newton.
Manufacture of artificial fuel - - - - -	9234	27th Jan. 1842	Andrew Kurtz.
Making and moulding artificial fuel and other substances.	9244	31st Jan. 1842	Charles Wye Williams.
Manufacture of fuel; obtaining products in such manufacture.	9256	15th Feb. 1842	Charles Thomas Holcombe.
Using certain materials as fuel - - - - -	9489	13th Oct. 1842	Charles Thomas Holcombe.
Manufacture of artificial fuel - - - - -	9490	13th Oct. 1842	William Edward Newton.
Manufacture of artificial fuel - - - - -	9651	2nd March 1843	Masta Joscelin Cooke.
Manufacture of fuel; machinery for manufacturing the same - - - - -	9705	20th April 1843	{ Thomas Oram, Ferdinand Charles Warlich.
Manufacture of fuel - - - - -	9781	10th June 1843	Carteret Priaulx Dobree.
Manufacture or preparation of fuel - - - - -	9799	22nd June 1843	William Wylam.
Manufacture of fuel - - - - -	9892	5th Oct. 1843	Ferdinand Charles Warlich.
Preparing wood for lighting or kindling fires - -	10,048	12th Feb. 1844	William Geeves.
Manufacture of fuel - - - - -	10,055	17th Feb. 1844	Samuel Dobree.
Preparation of peat, rendering it applicable for fuel and for various purposes.	10,162	27th April 1844	Edward Cobbold.
Machinery for the manufacture of artificial fuel -	10,286	5th Aug. 1844	Thomas Middleton.
Apparatus for riddling coals at collieries - -	10,437	18th Dec. 1844	Robert Walker.
Machinery for the manufacture of artificial fuel -	10,506	31st Jan. 1845	Thomas Middleton.
Manufacturing artificial coal or fuel, and other useful products connected therewith. [ <i>Scotch Patent.</i> ]	10,523	17th Feb. 1845	Frank Hills.
Preparation and application of artificial fuels - -	10,550	11th March 1845	Richard Archibald Brooch.
Artificial fuel; machinery for manufacturing the same.	10,603	7th April 1845	William Wylam.
Combining small coal and other matters - - -	10,665	10th May 1845	Frederick Ransome.
Manufacture of fuel; apparatus for use of the same	10,666	10th May 1845	John Parsons.
Application of combustible gases as fuel - - -	10,733	23rd June 1845	William Pollard.
Producing artificial fuel - - - - -	10,931	11th Nov. 1845	Peter Armand le Comte de Fontainemoreau.
Preparing and burning fuel - - - - -	11,097	17th Feb. 1846	Nicolas François Corbin Desboissierres.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>manufacturing and moulding fuel</i> ].	11,149	25th March 1846	Charles Smith.
Manufacture of fuel - - - - -	11,159	7th April 1846	Ferdinand Charles Warlich.
Manufacture of artificial fuel, and the application of the residual products to useful purposes.	11,219	26th May 1846	Charles Bertram.
Manufacture of fuel; partly applicable to purifying, compressing, and extracting vegetable substances and fluids; machinery to be used for the same.	11,240	12th June 1846	Robert Rettie.
Manufacture of fuel - - - - -	11,405	8th Oct. 1846	George Lowe.
Methods and machinery for the preparation of peat as a fuel.	12,169	1st June 1848	Jasper Wheeler Rogers.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FUEL—continued.</b>			
Manufacture of fuel - - - - -	12,180	16th June 1848	George Emmott.
Manufacture of artificial fuel in blocks or lumps -	12,263	4th Sept. 1848	{ William Edward Hol- lands. Nicholas Whitaker Green.
Apparatus for preparing cane trash as fuel - -	12,335	21st Nov. 1848	William Hood Clement.
Machinery for moulding and pressing artificial fuel -	12,454	6th Feb. 1849	Thomas Snowdon.
Preparation of fuel - - - - -	12,507	5th March 1849	William Henry Green.
Compressing or solidifying fuel and other materials	12,544	28th March 1849	William Buckwell.
Preparing wood for fire-wood - - - - -	12,578	17th April 1849	William Hyde Knapp.
Manufacture or preparation of fire-wood - -	12,759	6th Sept. 1849	Alexander Robert Terry.
Preparation of fuel - - - - -	12,780	20th Sept. 1849	Henry Bessemer.
Treatment of coal, and separating coal and other substances from foreign matters; manufacture of artificial fuel; machinery and apparatus for the purpose.	12,827	2nd Nov. 1849	Charles Cowper.
Compressing peat for making fuel and gas - -	12,867	28th Nov. 1849	Frank Clarke Hills.
Compressing or solidifying fuel - - - - -	12,912	3rd Jan. 1850	William Buckwell.
Artificial fuel, and machinery used for manufacturing the same.	12,932	17th Jan. 1850	Robert Barbor.
Treating peat and other carbonaceous and ligneous matters so as to obtain products therefrom [ <i>compressing peat; making an anthracite fuel</i> ].	12,990	7th March 1850	William Benson Stones.
Manufacture of fuel - - - - -	12,992	7th March 1850	Henry James Tarling.
Preparing materials to be employed in the manufacture of gas; partly applicable to other similar purposes [ <i>consolidating peat to be used for fuel</i> ].	13,059	23rd April 1850	{ Richard Laming. Frederick John Evans.
Preparation of peat and manufacture of the same into fuel.	13,258	19th Sept. 1850	Jasper Wheeler Rogers.
Manufacture of fuel - - - - -	13,386	7th Dec. 1850	Henry Walker Wood.
Preparation of peat and other ligneous and carbonaceous substances; conversion of some of the products derived thereby; mode of their application to the preservation of substances liable to decomposition and destructive agencies;—applicable to other products of a similar nature [ <i>for making fuel</i> ].	13,420	19th Dec. 1850	William Henry Green.
Manufacture of fuel - - - - -	13,450	11th Jan. 1851	Alexander Speed Livingstone.
Preparation of fuel - - - - -	13,463	18th Jan. 1851	William Rees.
Treatment and use of peat and its products, and other carbonaceous matters; also apparatus applicable to such, and other chemical purposes -	13,590	15th April 1851	William Benson Stones.
Manufacture of fuel - - - - -	13,617	3rd May 1851	Peter Armand le Comte de Fontainemoreau.
Separating coal from foreign matters, and apparatus for that purpose.	13,649	8th Dec. 1851	Charles Cowper.
Manufacture, preparation, and combination of materials or substances for production of fuel, and for other purposes to which natural coal can be applied.	13,911	24th Jan. 1852	William Pidding.
Apparatus for sifting cinders - - - - -	13,920	24th Jan. 1852	George Kent.
Screens for screening coals and other substances -	13,980	23rd Feb. 1852	Thomas Young Hall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FUEL—continued.</b>			
<b>II.—Charcoal,—making, purifying, and reburning.</b>			
Engine for pounding charcoal to make powder of -	271	27th Aug. 1691	John Tyracke.
A new invented factitious coal, to be used instead of charcoal.	1386	12th Sept. 1783	Jean De Canolle.
Application of apparatus for converting the fuel used for heating retorts of gas-light apparatus into charcoal - - - - -	4123	17th May 1807	{ William Bound. William Stone.
Preparing animal charcoal - - - - -	6061	15th Jan. 1831	William Parker.
Renewing the virtues of animal charcoal when exhausted or impaired.	6883	17th Aug. 1835	Frederick Bowman.
Fuel to be used in apparatus for heating churches, warehouses, carriages, and other places requiring artificial heat [ <i>prepared charcoal</i> ].	7509	16th Dec. 1837	Thomas Joyce.
Revivifying or reburning animal charcoal - - -	8123	22nd June 1839	Frederick Parker.
Renovating or restoring animal charcoal after having been used in certain processes or manufactures, so as to render it fit for use a second time	8461	31st March 1840	{ Peter Bancroft. John MacInnes.
Burning animal charcoal - - - - -	10,561	17th March 1845	Constant Champion.
Reducing charcoal and other similar matters to powder.	11,119	5th March 1846	Robert Lewis Jones.
Reburning animal charcoal - - - - -	11,376	17th Sept. 1846	James William Bowman.
Manufacture of charcoal and other fuel - - -	11,737	10th June 1847	{ Bondy Azulay. Abraham Solomons.
Manufacture of charcoal - - - - -	12,072	18th Feb. 1848	{ Edward Duncombe Lines. Samuel Luz Freemont.
Manufacture of charcoal - - - - -	12,165	26th May 1848	{ Abraham Solomons. Bondy Azulay.
Obtaining carbonated hydrogen gas, and applying the products resulting therefrom to various useful purposes [ <i>obtaining animal and vegetable charcoal</i> ].	12,718	1st Aug. 1849	Florentin Joseph De Cavaillon.
Treating peat and other carbonaceous and ligneous matters so as to obtain products therefrom [ <i>carbonizing peat</i> ].	12,900	7th March 1850	William Benson Stones.
Preparing materials to be employed in the manufacture of gas;—partly applicable to other similar purposes [ <i>consolidating peat for making char-peat</i> ] - - - - -	13,059	23rd April 1850	{ Richard Laming. Frederick John Evans.
Manufacturing and treating animal charcoal - -	13,147	24th June 1850	Robert Andrew Macfie.
Preparation of peat, and manufacturing the same into charcoal.	13,258	19th Sept. 1850	Jasper Wheeler Rogers.
Manufacture of charcoal - - - - -	13,391	9th Nov. 1850	Sir Francis Charles Knowles.
Use and treatment of peat and its products, and other carbonaceous matters; apparatus applicable to such and other chemical purposes [ <i>making char-peat</i> ].	13,590	15th April 1851	William Benson Stones.
Reburning animal charcoal - - - - -	13,954	3rd Feb. 1852	George Torr.
<b>III.—Coke making and preparing.</b>			
Charking coals, and dressing and qualifying them for melting and making iron and other metals - }	65	1st Oct. 1633	{ Sir Abrahams Williams. John Jasper Van Wolfen.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FUEL—continued.</b>			
Charking sea-coals - - - - -	98	26th July 1636	{ Thomas Paton. Walter Williams.
Making cinders from pit-coal - - - - -	1291	30th April 1781	Archibald Earl of Dundonald.
Application of apparatus for converting fuel used for heating gas-retorts into coke - - - - }	4122	17th May 1817	{ William Bound. William Stone.
Method of combining and using fuel in stoves, furnaces, boilers, and steam-engines [small coal and culm converted into coke] - - - - }	4848	9th Oct. 1823	{ John Christie. Thomas Harper.
Apparatus for making coke; method of arranging the same.	5712	2nd Oct. 1828	John Brunton.
Preparation of a coal fitted for refining and purifying sugar and other matters, and restoring the coal after being used.	9057	23rd Dec. 1830	Mary Elizabeth Antonette Pertins.
Method of operating for the purpose of converting peat moss and peat turf or bog into fuel, and obtaining from it tar, gas, and certain other substances or matters [preparing coke].	7296	6th Feb. 1837	Michael Linning.
Means of preparing the vegetable material of peat moss or bog so as to render it applicable to several useful purposes, and particularly for fuel [preparing coke].	7744	26th July 1838	Charles Wye Williams.
Manufacturing coke, whereby the sal-ammoniac, bitumen, gases, and other residual products of coal are separately collected, and the heat employed in the process applied to other purposes.	7898	6th Dec. 1838	Frederick Neville.
Manufacture of coke - - - - -	8757	30th Dec. 1840	John Wells.
Manufacture of coke - - - - -	11,010	20th Dec. 1845	Jabez Church.
Manufacture of coke - - - - -	11,125	11th March 1846	Parfait Grout.
Manufacture of coke - - - - -	11,997	15th Dec. 1847	George Ambroise Michaut.
Manufacture of coke; machinery and apparatus for the purpose.	12,827	2nd Nov. 1849	Charles Cowper.
Production of coke - - - - -	13,057	23rd April 1850	{ Antoine Pauwels. Vincent Dubochet.
Manufacture of coke - - - - -	13,121	11th June 1850	James Palmer Budd.
Carbonization of coal, and utilization of the products disengaged during that operation.	13,642	27th May 1851	Alfred Vincent Newton.
Manufacturing and purifying coke - - - - -	13,793	30th Oct. 1851	Frederick Crace Calvert.
Distilling and treating organic substances and bituminous matters, and treatment of their products, together with the apparatus used for the purpose [collecting and treating vapours in the manufacture of coke].	13,855	10th Dec. 1851	Etienne Alexander Armand.
Manufacture of coke, and application of the gaseous products arising therefrom to useful purposes.	13,974	23rd Feb. 1852	William Edward Newton.
Coking of coal - - - - -	14,260	12th Aug. 1852	Richard Laming.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FURNITURE AND CABINET-WARE.</b>			
<b>I.—Cabinet and other Furniture, Panels, &amp;c.</b>			
<i>(Making, ornamenting, and veneering.)</i>			
Chamber weather-call, like a cabinet, to be placed in a room or by a bed-side, to cause sweet sleep to fevered invalids.	59	20th July 1632	Thomas Grent.
Printing or stamping cabinets, bedsteads, playing-tables, and other things with liquid gold and silver.	121	10th Dec. 1638	William Billingsley.
Making a composition with wood capable of being run into moulds in a liquid state, for beautifying rooms, embellishing cabinets, &c. - - -	317	7th March 1693	{ Marshall Smith. Thomas Puckle.
Chasing cabinet-work and other domestic furniture in metals.	920	7th March 1769	John Pickering.
Making varnished paper panels for cabinets and other articles.	1027	20th Nov. 1772	Henry Clay.
Ornamenting furniture - - - - -	1065	14th Feb. 1774	Joseph Jacob, junior.
Making library-steps, to be contained in writing-tables, library-tables, and dining-tables, with or without hand-rail, and with or without desks on the top; also in card-tables, breakfast-tables, dressing or other tables, and in chairs or stools.	1086	11th Nov. 1774	Robert Campbell.
Stamping ornaments on cabinet and other furniture - - - - -	1165	1st Aug. 1777	{ John Marston. Samuel Bellamy.
Ornamenting cabinets and furniture with foil stones, Bristol stones, paste, and all sorts of pinched glass, sapped glass, and every other stone, glass, and composition used in or applicable to the jewellery trade.	1552	5th Aug. 1786	John Skidmore.
Ornamenting furniture with glass in relief - - -	1568	7th Nov. 1786	Thomas Rogers.
Making panels for tables, cabinets, pictures, and other furniture.	1918	20th Nov. 1792	Henry Clay.
Stand for books, with cases to receive books and other articles.	3153	25th July 1808	Benjamin Crosby.
Dovetail joint for furniture and any kind of framework.	3677	7th April 1813	John Bennett.
Manufacture of ornamented wooden furniture by machinery.	4237	14th March 1818	Richard Penn.
Apparatus applicable to book and other shelves -	7189	22nd Sept. 1836	Robert Jupe.
A new covering or plating for household furniture, picture-frames, cabinet and fancy work, and other articles of domestic or personal use; mode of making such covering or plating [ <i>preparing skins of animals, also old parchment, for veneering purposes</i> ].	8193	13th Aug. 1839	Henry Brown.
Bed-steps, convertible into other useful forms or articles of furniture.	9130	2nd Nov. 1841	Thomas Macauley.
Covering surfaces with wood - - - - -	9231	22nd Jan. 1842	Antoine Mertens.
Construction of metal and wooden bedsteads [ <i>decorating with papier-mâché</i> ].	9358	23rd May 1842	Benjamin Cook, junior.
Glueing or cementing certain materials for building and other purposes.	9763	10th June 1843	Henry Austin.
Construction of panelling and framing for cabinet-work.	9907	13th Oct. 1843	Stephen Geary.
Wardrobes and other articles - - - - -	10,332	27th Sept. 1844	Alexander Ramuz.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FURNITURE, &amp;c.—continued.</b>			
Construction and methods of extending and compressing articles of furniture and domestic use.	11,081	12th Jan. 1846	Charles Chinnoek.
Manufacture of gutta-percha, and its application alone and in combination with other substances [inlaying or veneering wood with gutta-percha].	11,208	15th May 1846	Charles Hancock.
Laying and uniting veneers - - - - -	11,716	25th May 1847	Pierre Armand le Comte de Fontainemoreau.
Improvements partly applicable to figuring and decorating articles of furniture.	12,075	28th Feb. 1848	Elizabeth Wallace.
Manufacture of revolving furniture and swivels -	12,392	28th Dec. 1848	Moses Poole.
Veneering - - - - -	12,791	27th Sept. 1849	John Meadows.
Preparation of materials for the production of a composition applicable to the making of buttons and other articles [for veneering purposes].	13,021	23rd March 1850	Alfred Vincent Newton.
Preparation of materials for the production of a composition for manufacturing buttons and other articles [to be used for veneering purposes].	13,542	4th March 1851	Alfred Vincent Newton.
Preparation of materials or fabrics suitable for ornamenting furniture and other articles.	13,597	17th April 1851	Frederick Puckridge.
Decoration of articles of furniture - - - - -	13,624	7th May 1851	Thomas Robert Mellish.
Manufacture, preparation, and combination of materials or substances for production of fuel, and for other purposes to which natural coal can be applied [by moulding, after carbonizing and pulverizing, for the manufacture of articles of furniture].	13,911	24th Jan. 1852	William Pidding.
<b>II.—Tables.</b>			
Printing playing-tables and other things with liquid gold and silver.	121	10th Dec. 1638	William Billingsley.
Making dice-tables - - - - -	292	— Feb. 1692	Thomas Neale.
Portable table, with double or single folding flaps and feet.	995	29th July 1771	Anthony George Eckhardt.
Fastening the joints of tables with screws - -	1579	19th Dec. 1786	William Cairncross.
Making panels for tables - - - - -	1915	20th Nov. 1792	Henry Clay.
Construction of tables - - - - -	2007	13th Aug. 1794	{ Richard Sweetnam. Joseph Higgs.
Table with a stove in the centre - - - - -	2167	15th Feb. 1797	Richard Dubois De Chemant.
Construction of dining and other tables - -	2393	29th April 1800	John Marshall.
Constructing dining and other tables - - -	2396	1st May 1800	Richard Gillow.
Dining-tables - - - - -	2657	6th Nov. 1802	Robert Walker.
Dining, card, pembroke, and other tables - -	2727	3rd Aug. 1803	Laver Oliver.
Tables for dining and other uses - - - - -	2895	19th Nov. 1805	William Pocock.
Construction of several parts of tables and other household furniture which are supported on legs or feet.	2898	26th Nov. 1805	Richard Brown.
Tables - - - - -	3090	16th Dec. 1807	George Remington.
Construction of tables for domestic, military, and naval services.	3217	20th March 1809	James Hakewill.
Construction of dining and other tables - -	3330	22nd May 1810	Charles Stewart.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FURNITURE, &amp;c.—continued.</b>			
Dining-table - - - - -	3827	26th July 1814	William Doncaster.
Table apparatus to promote the ease, comfort, and economy of persons at sea or on nautical excursions - - - - -	5508	12th June 1827	{ Hugh Evans. William Robert Wale King.
Expanding table - - - - -	6788	11th March 1835	Robert Jupe.
Tables ;—applicable to other articles of furniture -	6749	23rd Dec. 1840	{ Frederick Payne Mackelcan. James Murdock.
Construction of dining and billiard tables - -	10,832	27th Sept. 1844	Alexander Ramuz.
Combining materials to be employed in the manufacture of tables and other like articles.	10,958	20th Nov. 1845	Eugène François Vidocq.
Reading tables - - - - -	11,194	5th May 1846	George Riddett.
Construction of expanding or dining tables - -	11,699	10th May 1847	William Norman.
Manufacture of tables and tubular or hollow articles - - - - -	12,831	2nd Nov. 1849	{ John Cowley. John Hickman.
<b>III.—Chairs, Sofas, and similar Articles.</b>			
Portable chair, answering all the purposes of a table and chair, and yet occupying only the compass of a small box.	995	29th July 1771	Anthony George Eckhardt.
Making chairs, sofas, stools, benches, &c., adapted for rooms or carriages, with backs, seats, and cushions fixed in such a manner as instantly to change and show two surfaces in one seat; also preserving covers, whereby different surfaces may be introduced in one seat, and so that when one surface is in use the others may be preserved.	2208	16th Jan. 1798	Anthony George Eckhardt.
Framing together chairs and sofas - - - -	2420	1st July 1800	John Elwick.
Construction of chairs and stools for domestic, military, and naval service; packing the same.	3217	20th March 1809	James Hakewill.
Preparing certain vegetables so that they may be applied in the manufacture of chair-bottoms, baskets, and other articles [ <i>palm-leaves</i> ].	3397	15th Oct. 1810	John Fraser.
Enclosing a seat in a portable stool stick - -	3699	22nd May 1813	John Thackray.
Sofa or machine for the ease of invalids and others	3744	1st Nov. 1813	Samuel James.
Construction of sofas and other similar articles -	5237	11th Aug. 1825	Jacob Perkins.
Seats and other articles of furniture - - - -	5418	18th Oct. 1826	Samuel Pratt.
Chairs or machines calculated to increase ease and comfort.	5490	28th April 1827	Robert Daws.
Construction of chairs, sofas, lounges, and other articles of furniture [ <i>in which as the back recedes the footboard is brought up</i> ].	5700	11th Sept. 1828	Thomas Minikew.
Manufacture of chairs ("Minter's reclining chairs")	6034	9th Nov. 1830	{ George Minter. John Minter.
Constructing sofas and other articles - - - -	6352	20th Dec. 1832	Robert Selby.
Easy chairs - - - - -	6380	31st Jan. 1833	James Sutton.
Manufacture of chairs - - - - -	7558	15th Dec. 1836	James Torry Hester.
Sofas, chairs, and other furniture, to render them more suitable for travelling and for other purposes.	7779	8th Sept. 1838	Joseph Brown.
Apparatus applicable to chairs - - - - -	8349	21st Jan. 1840	James Hall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FURNITURE, &amp;c.—continued.</b>			
Manufacture of chairs and sofas, and other articles of a similar nature.	8581	30th July 1840	John Louis Bachelard.
Sofas, ottomans, and other apparatus for reclining on.	10,332	27th Sept. 1844	Alexander Ramuz.
Construction of chairs - - - - -	10,545	8th March 1845	Robert Frederick Browne.
Construction of easy chairs - - - - -	10,918	4th Nov. 1845	{ George Minter. Jonathan Badger.
Construction of chairs - - - - -	11,264	29th June 1846	Thomas Lane Coulson.
Construction of chairs, sofas, and other articles of furniture for sitting and reclining upon [ <i>camp bedsteads</i> ].	12,279	5th Oct. 1848	Thomas Metcalfe.
Construction and manufacture of metallic sofas -	12,302	2nd Nov. 1848	Robert Walter Winfield.
Manufacture of chairs - - - - -	12,821	2nd Nov. 1849	{ John Cowley. John Hickman.
Reclining chairs - - - - -	13,213	5th Aug. 1850	Francis Kane.
Construction of chairs, couches, and seats;—parts of which improvements are also applicable to various purposes where springs for resisting sudden and continuous pressure, and for supporting heavy bodies, are required.	13,361	21st Nov. 1850	John James Greenough.
Chairs and other like articles of furniture - -	13,464	21st Jan. 1851	Edmund Pace.
<b>IV.—Bedsteads and Couches.</b>			
Printing bedsteads, &c. with liquid gold and silver	121	10th Dec. 1638	William Billingsley.
Picture, serving as a tester to a couch-bed and an ornament to a room.	434	12th Aug. 1721	Isaac de la Chaumette.
Bedstead for invalids, made in such a way that the person lying thereon can be raised into a sitting posture by turning a winch; may be also used as a settee - - - - -	860	13th Sept. 1766	{ Robert Dickinson. Henry Sedgier.
Bedsteads - - - - -	1002	1st Feb. 1772	Thomas Gale.
Construction of bedsteads, by putting them together with screws and nuts.	1483	4th June 1785	Thomas Waldron.
Bedstead - - - - -	1850	11th Feb. 1792	Joseph Higgs.
Construction of canopy, ceiling, wind-up or draw-up bedsteads, with or without bedding or furniture, for obtaining room.	1919	28th Nov. 1792	Samuel Young Hunclass.
Couches - - - - -	3090	16th Dec. 1807	George Remington.
Making an adjusting bedstead, with a fourfold method for the relief of sick, lame, infirm, and aged persons - - - - -	3387	8th Oct. 1810	{ Ebenezer Parker. Francis Cluly.
Bedsteads - - - - -	3467	24th July. 1811	Joseph Bastone.
"Palanquin couch" - - - - -	3539	19th Feb. 1812	Thomas Figgins.
Making iron bedsteads and testers - - -	3560	30th April 1812	John Thomas Thompson.
Manufacture of bedsteads or bed-frames, to relieve the bedridden, the ruptured, and sufferers with broken limbs, gout, or any other affliction.	3597	28th Aug. 1812	George Paxon.
Bedsteads - - - - -	3893	14th March 1815	Elizabeth Beveridge.
Bedsteads - - - - -	3910	27th April 1815	Jacob Wilson.
Bedstead for invalids [ <i>with moveable parts and appendages made from slender rods</i> ].	4788	22nd April 1823	James Rawlins.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FURNITURE, &amp;c.—continued.</b>			
Combining wood and metal to form rods for making bedsteads, cornices, &c.	5192	14th May 1825	Samuel Pratt.
Construction of bedsteads [ <i>the sacking being extended on rollers, and drawn tight by ratchet-wheel and click</i> ].	5237	11th Aug. 1825	Jacob Perkins.
Framework for bedsteads, and for other purposes -	5290	26th Nov. 1825	Richard Jones Tomlinson.
Applying metallic tubes to the construction of metallic tube and other bedsteads [ <i>brass tubes, strengthened within by tubes of iron</i> ].	5403	17th Aug. 1826	John Thomas Thompson.
Bedsteads;—applicable to other purposes [ <i>formed of sliding tubes, for the purpose of portability</i> ].	5410	31st Aug. 1826	William Day.
Bedsteads, couches, and other articles of furniture -	5418	18th Oct. 1826	Samuel Pratt.
Parts of bedsteads [ <i>adapting wire gauze for the sacking, tester, and curtains</i> ].	5491	28th April 1827	Thomas Briedenback.
Bedstead, and manufacturing articles to be used with them, from materials not before used for the purpose.	5538	13th Aug. 1827	Thomas Briedenback.
Manufacturing tubes or rods into parts of bedsteads and other articles [ <i>metal strengthened by wood</i> ].	5578	4th Dec. 1827	Robert Walter Wingfield.
Surgical chair-bed, with various appendages -	5605	15th Jan. 1828	William Newton.
Machinery for forming tubes or rods, and for other purposes [ <i>of metal, for bedsteads</i> ].	5641	26th April 1828	Thomas Briedenback.
Applying and arranging certain articles, parts or pieces of cabinet-work, upholstery, and other articles commonly applied to bedsteads and hangings, and also others not hitherto so applied.	6166	27th Oct. 1831	Sarah Guppy.
Construction of bedsteads;—applicable to other articles [ <i>from hollow tubes of metal, strengthened by internal rods of wood and bars of iron</i> ].	6206	20th Dec. 1831	Robert Walter Wingfield.
Bedsteads or apparatus applicable to the ease and comfort of invalids and others.	6746	15th Jan. 1835	James Cherry.
Bedsteads, and apparatus to be used with or for } bedsteads - - - - - }	7014	26th Feb. 1836	{ James Barron. Edward Thomas.
Constructing bed-posts and other like articles [ <i>of china or earthenware</i> ].	7592	14th March 1838	William Dale.
Children's cots - - - - -	7955	29th Jan. 1839	Thomas Collette.
Construction of bedsteads partly applicable to the use of invalids.	8320	16th Dec. 1839	James William Thompson.
Apparatus applicable to bedsteads and couches -	8349	21st Jan. 1840	James Hall.
Metallic bedsteads;—applicable to other articles of metallic furniture.	8891	22nd March 1841	Robert Walter Winfield.
Bedsteads - - - - -	9346	9th May 1842	Jacob Wilson.
Construction of metal and wooden bedsteads - -	9358	23rd May 1842	Benjamin Cook, junior.
Construction of bedsteads for invalids - - -	9628	11th Feb. 1843	Jonathan Badger.
Bedsteads and couches for invalids - - -	9780	16th May 1843	John Thompson.
Improvements partly applicable to bedsteads - -	9755	6th June 1843	{ Richard Fariner. Joseph Pitt.
Method of fastening and securing bedsteads - -	9834	13th July 1843	George King Sculthorpe.
Bedsteads and other apparatus for reclining or sleeping on.	10,832	27th Sept. 1844	Alexander Ramuz.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FURNITURE, &amp;c.—continued.</b>			
Construction of couches - - - - -	10,545	8th March 1845	Robert Frederick Browne.
Bedsteads - - - - -	11,241	16th June 1846	Edward Cottam.
Manufacturing bedsteads - - - - -	11,705	18th May 1847	{ Richard Peyton. Jonathan Harlow. Thomas Horne.
Constructing and connecting parts of bedsteads, couches, and other articles of furniture.	12,031	18th Jan. 1848	John Hickman.
Construction and manufacture of metallic bedsteads and couches.	12,302	2nd Nov. 1848	Robert Walter Winfield.
Manufacture of bedsteads, couches, and tubular or hollow articles - - - - -	12,821	2nd Nov. 1849	{ John Cowley. John Hickman.
Bedsteads - - - - -	12,838	10th Nov. 1849	{ Richard Ford Sturges. Jonathan Harlow.
Manufacture of bedsteads and other articles for sitting or reclining on.	13,088	30th May 1850	Jonathan Harlow.
Construction of couches - - - - -	13,361	21st Nov. 1850	John James Greenough.
Metallic and other bedsteads and mattresses; coating and covering the same, and other articles wholly or partly composed of metal.	13,390	7th Dec. 1850	Francis Papps.
Bedsteads, couches, and other like articles of furniture.	13,464	21st Jan. 1851	Edmund Pace.
Portable bedsteads and sacking-bottoms - - -	13,541	4th March 1851	William Edward Newton.
Bedsteads and couches, or articles for sitting, lying, and reclining upon - - - - -	13,576	25th March 1851	{ Thomas Woods. Robert Walter Winfield.
Connecting parts of bedsteads and other frames; machinery employed therein.	13,588	15th April 1851	Henry John Betjemann.
Couches and other articles of furniture - - -	13,742	10th Sept. 1851	John Blair.
<b>V.—Workboxes, Music-stands, Dressing-boxes, &amp;c.</b>			
Shaving-box - - - - -	1345	28th Nov. 1782	James Playfair.
Making caddies, dressing-boxes, and bottle-stands -	1578	14th Dec. 1786	Obadiah Westwood.
Music-stands and reading-desks - - - - -	3533	4th Feb. 1812	John Leberecht Steinhäuser.
Manufacturing straw with gauze net web and other similar articles, for the purpose of making into workboxes, work-bags, toilet-boxes, and other articles.	3930	17th June 1815	Grace Elizabeth Service.
<b>VI.—Fire-screens.</b>			
Fire-screens - - - - -	2963	30th Aug. 1806	John Carey.
Fire-screens - - - - -	3533	4th Feb. 1812	John Leberecht Steinhäuser.
Fire-screens - - - - -	3609	31st Oct. 1812	Benjamin Cook.
Folding screen, to impede the passage of air, smoke, fire and light, applicable to fireplaces.	3787	12th March 1814	Roger Haslewood.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FURNITURE, &amp;c.—continued.</b>			
<b>VII.—Castors, Knobs, and Handles.</b>			
Stamping hat and cloak pins - - - -	1105	1st Aug. 1777	{ John Marston. Samuel Bellamy.
Castors for furniture - - - - -	3406	6th March 1811	Thomas William Sturgeon.
Manufacturing flat backed handles and rings, used with or affixed to cabinet and other furniture and things.	3450	21st May 1811	William Jenkins.
Manufacturing drawer and other knobs, used with or affixed to cabinet and other furniture and things.	3483	9th Sept. 1811	William Walker Jenkins.
Making claw, socket, and other kinds of castors -	3548	14th March 1812	John Loach.
Making socket castors, used with or affixed to cabinet and other furniture and things.	3698	22nd May 1813	William Jenkins.
Castors - - - - -	3976	23rd Jan. 1816	James Barron.
Castors or rollers for tables, sofas, bedsteads, and other articles.	4008	23rd March 1816	John Leberecht Steinhäuser.
Making and fixing knobs used on drawers and cabinet furniture.	4320	10th Dec. 1818	James Barron.
Castors applicable to tables and other articles -	4461	21st June 1820	James Harcourt.
Making knobs for drawers, doors, and locks; also knobs of every description.	4973	15th June 1824	Benjamin Agar Day.
Castor for furniture - - - - -	5562	17th Nov. 1827	John Walker.
Castors for furniture and for other purposes - -	5584	13th Dec. 1827	Frederick Benjamin Geithner.
Methods of making from horns and hoofs of animals various articles,—namely, handles and knobs of drawers and other parts of cabinet and household articles, curtain-rings, bell-pulls, door handles and knobs, keyhole escutcheons, or coverings for doors and window-shutters, finger-plates, knobs, and handles, all or any of which articles are to be so made of one or more piece or pieces of horn or hoof, of any shape or device, plain or ornamental, or inlaid or conjoined with any kind of metal or other material - - - - -	5753	14th Jan. 1829	{ James Deakin. Thomas Deakin.
Castors - - - - -	6478	5th Oct. 1833	James Windeyer Lewty.
Castors for furniture - - - - -	6721	25th Nov. 1834	James Lutton.
Castors for furniture and for other purposes - -	7835	17th Oct. 1838	Elias Robison Handcock.
Castors for furniture and for other purposes - -	8240	10th Oct. 1839	David Harcourt.
Castors for furniture;—applicable to other purposes	8485	23rd April 1840	James Malcolm Rymer.
Improvements applicable in whole or in part to the production of knobs, rings, and other articles - - - - -	8548	17th June 1840	{ Richard Prosser. John James Rippon.
Manufacture of knobs, handles, frames, tablets, boxes, and other ornamental articles, for decoration of houses and furniture.	8605	17th Aug. 1840	John Young.
Articles for forming knobs for doors, bell-pulls, and curtain-pins, and capable of being used for a variety of useful and ornamental purposes.	8649	1st Oct. 1840	Thomas Joyce.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FURNITURE, &amp;c.—continued.</b>			
Improvements applicable to castors for furniture and other purposes.	8745	18th Dec. 1840	Elias Robison Hancock.
Castors applicable to cabinet furniture and other purposes.	8788	14th Jan. 1841	John Loach.
Castors - - - - -	8823	1st Feb. 1841	Henry Pape.
Construction of castors - - - - -	9182	16th Dec. 1841	James Stewart.
Castors for cabinet furniture and for other purposes	9203	21st Dec. 1841	Adolphe Fourment.
Manufacture of hollow metal knobs for handles of door and other locks.	9263	21st Feb. 1842	Daniel Greenfield.
Castors for furniture - - - - -	9870	17th Aug. 1843	John Charlton.
Manufacture of axle pulleys, and pegs or pins for hanging hats or other garments thereon.	10,155	24th April 1844	William Taylor.
Construction of spindles and knobs applicable to doors and other similar purposes.	10,182	14th May 1844	Benjamin Pitt.
Attaching plain or ornamental surfaces of earthenware, china, or glass, to articles made of metal, wood, or other materials [ <i>fixing handle-knobs, &amp;c., by screws</i> ].	11,506	8th Feb. 1847	William Sadler Kennedy.
Attaching knobs or handles to drawers, doors, and other articles of furniture.	12,031	18th Jan. 1848	John Hickman.
Castors for furniture - - - - -	12,459	8th Feb. 1849	Richard Pannell Forlong.
Manufacture of knobs, handles, and spindles for the same, for doors and other purposes.	12,804	8th May 1849	Samuel Wilkes.
Castors - - - - -	12,895	4th July 1849	Pierre Augustin Chaufourier.
Manufacture of knobs for doors, articles of furniture, or other purposes; connecting metallic attachments to articles made of glass or other analogous materials.	12,786	27th Sept. 1849	William Edward Newton.
Knobs, handles, and fastenings for doors and drawers.	12,898	15th Dec. 1849	Robert Harcourt.
Preparation of materials to produce a composition for making door-knobs and other articles.	13,021	23rd March 1850	Alfred Vincent Newton.
Castors for chairs and other articles of furniture -	13,213	5th Aug. 1850	Francis Kane.
Manufacture of castors - - - - -	13,383	5th Dec. 1850	Benjamin Hinley.
Preparation of materials for producing a composition for making door-knobs and other articles where strength and durability are required.	13,542	4th March 1851	Alfred Vincent Newton.
Manufacture of castors and legs of furniture - -	13,828	22nd Nov. 1851	Frederick Benjamin Geithner.
<b>VIII.—Fastenings.</b>			
Securing the joints between the legs and rails of chairs, tables, &c., in cabinet-work, by metal screws applied on the inner side.	1579	19th Dec. 1786	William Cairncross.
Weights, bolts and springs, for desks, tables, chairs, stools, tambour-frames, library-steps, bedsteads, and various other articles.	2248	6th July 1798	Day Gunby.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>FURNITURE, &amp;c.—continued.</b>			
Fastening to be applied to dining-tables     -     -	2542	8th Oct. 1801	William Bullock.
Fastening for dining-tables, and for other purposes -	6188	9th Nov. 1831	George Minter.
Table furniture;—applicable to other purposes [fastenings].	6223	16th Feb. 1832	John Sutton Nettlefold.
Fastening for tables and such like purposes     -     -	8330	24th Dec. 1839	Thomas Hardeman Clarke.
Construction of fastenings for parts of bedsteads and other frames.	9268	7th March 1842	Francis Kane.
Fastenings of bedsteads and other frames     -     -	10,066	21st Feb. 1844	Henry Charles Howells.
Fastenings for drawers and dining-tables, &c.     -	10,361	22nd Oct. 1844	George Osmond.
Fastenings for tables;—applicable as fastenings generally.	11,568	8th Feb. 1847	John Loach.
Bolts, locks, and other fastenings [fastening parts of bedsteads; catch for tables].	11,869	16th Sept. 1847	William Hancock.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>G.</b>			
<b>GAMES, EXERCISES, AND AMUSEMENTS.</b>			
<b>I.—Equestrian and Muscular Exercises.—</b>			
<b>Ball-playing.</b>			
Engine for teaching to perform, by artificial horses, the usual exercises of a complete horseman, namely, running at the ring, throwing the lance, shooting the pistol, and taking up the head,	167	15th Feb. 1672	John Wells.
Royal carousal or tournament, being framed and contrived with engines, to afford amusement as well as instruction in horsemanship, as running at the ring, throwing the lance, taking up the head, and similar exercises, all performed in a straight line.	172	25th Nov. 1673	Raphaell Folyart.
Exercise called Fives - - - - -	300	4th July 1692	Thomas Samborne.
Machines, instruments, and necessities for exercise; "muscular strength and health-restoring exercise."	1211	11th Feb. 1779	Abraham Buzaglo.
Machine for exercising the joints and muscles of the human body.	2105	9th Sept. 1796	Francis Lowndes.
<b>II.—Theatrical Decorations.</b>			
Method of adjusting, shifting, and working theatrical scenery and apparatus.	8404	29th Feb. 1840	Rowland Macdonald Stephenson.
Manufacture of theatrical decorations - - -	11,512	31st Dec. 1846	{ George David Myers. William Cooper. James Wansbrough.
<b>III.—Billiard-tables and Dice; Bagatelle-boards; Machine and Counters for Drawing Lotteries.</b>			
New sort of table to be played upon with balls, to fit into small hollows, and made so mathematical and equally placed, and inlaid with chances of dice, as to prevent all cheating thereat; also a new sort of dice, known by the name of mathematics, cut perfectly square by a mould, with spots on them stained, instead of holes filled with wax, to prevent deceit at play.	202	— Feb. 1692	Thomas Neale.
Machine with moving circles, having ten faces on each, and nine figures and a cypher described on every face,—useful in drawing lotteries, and for other purposes; also double counters, with a number upon each, likewise useful for drawing lotteries.	484	12th Aug. 1721	Isaac de la Chaumette.
New invented dice - - - - -	2720	3rd Aug. 1803	Francis Godbold.
Bagatelle-board - - - - -	5016	7th July 1841	Thomas Hagen.
Construction of billiard-tables - - - -	10,332	27th Sept. 1844	Alexander Ramuz.
Parts of billiard-tables - - - - -	10,574	26th March 1845	John Thurston.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GAMES, EXERCISES, &amp;C.—continued.</b>			
<b>IV.—Playing-cards.</b>			
Making, dicing, and flowering playing-cards - -	886	7th Dec. 1767	John Berkenhout.
Playing-cards ("Brilliant new invented Knight's cards") - - - - -	2365	20th Dec. 1799	{ Edward Ludlow. Ann Wilcox.
Making and ornamenting playing-cards - - -	6231	23rd Feb. 1832	Thomas de la Rue.
Machinery for making playing and other cards -	12,208	26th Oct. 1848	{ William Church. Thomas Lewis.
Manufacture of playing-cards - - - -	13,648	29th May 1851	Joseph Reynolds.
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<b>V.—Kaleidoscope, Time-teachers, Toys, and Marbles.</b>			
Ornamenting toys - - - - -	1065	14th Feb. 1774	Joseph Jacobs.
Preparing steel, and ornamenting the same in toys and other steel work.	1621	17th Sept. 1787	John Rose.
Machine for making marbles - - - - -	1635	15th Jan. 1788	John George Hohmann.
Apparatus consisting of an oblong box, which, when opened, presents two tables, and having dice, pins, counters, &c., contained within the same, by means of which six different games may be played for the amusement of children, and which are at the same time an exercise in the fundamental principles of music, particularly the keys or modulations (major and minor), signatures, intervals and chords, and discords with their resolutions; also the rules of thorough bass.	2465	16th March 1801	Ann Young.
Optical instrument or "kaleidoscope" - - -	4136	10th July 1817	David Brewster.
Composition for the manufacture of toys and other fancy articles.	9275	4th March 1842	James Clements.
Time-teachers and boxes; manufacturing the same -	12,146	4th May 1848	Alexander Southwood Stocker.
Moulding, joining, and finishing hollow and solid figures composed wholly or in part of certain gums or combinations of the same; apparatus or machinery to be used for the purposes [ <i>gutta-percha dolls</i> ].	12,643	7th June 1849	Edward John Payne.
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<b>VI.—Skating Surfaces;—artificial Ice.</b>			
Substance or composition as a substitute for ice for skating and sliding purposes;—partly applicable to ornamental slabs and mouldings.	8455	28th March 1840	Henry Kirk.
Application of a composition as a substitute for ice, for skating and sliding purposes.	8684	5th Nov. 1840	Henry Kirk.
Substitute for ice, for skating and sliding - -	9134	2nd Nov. 1841	Henry Kirk.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GAS MANUFACTURE AND CONSUMPTION.</b>			
<b>I.—Gas-retorts.</b>			
Retort or vessel for making coal and other gas -	4567	8th Sept. 1821	{ Berrington Gibbons. Charles Hunnings Wilkinson.
Mode of applying certain materials, hitherto unused for the purpose, to the construction of retorts;— applicable to other parts of gas apparatus [ <i>pulverized ironstone</i> ].	4832	18th Aug. 1823	John Malam.
Apparatus for producing gas from various substances [ <i>retort</i> ].	4975	15th June 1824	Philip Taylor.
Making retorts of wrought iron, of steel, or composed of both those metals.	5553	11th Oct. 1827	Joshua Horton.
Construction and setting of retorts for carbonizing coal for gas-works.	5624	6th March 1828	Barnard Henry Brook.
Earthenware retort for generating gas for illumination.	6333	13th Nov. 1832	Thomas Spinney.
Construction of retorts for generating gas for the purpose of illumination.	6799	25th March 1835	John Brunton.
Removing the carbonaceous incrustation from the internal surfaces of retorts used in distilling coal for generating gas.	7387	8th June 1837	John Kirkham.
Construction of gas-retorts - - - - -	7560	31st Jan. 1838	William Holme Heginbotham.
Construction of retorts and other machinery for making gas from coals and other substances.	7788	30th Aug. 1838	John Grafton.
Manufacture of gas-retorts, and modes of setting the same.	9668	16th March 1843	James Malam.
Making retorts for generating gas for illumination -	10,215	4th June 1844	Joseph Cowen.
Manufacturing retorts; machinery connected therewith.	11,840	19th Aug. 1847	Orlando Brothers.
Construction and arrangement of retorts and other apparatus having for their object the manufacture of gas for illumination.	12,100	16th June 1848	George Einmott.
Manufacture of gas for illumination and other purposes; preparing materials to be employed in such manufacture; apparatus for making and using gas [ <i>retorts</i> ] - - - - -	13,059	23rd April 1850	{ Richard Laming. Frederick John Evans.
Construction of gas-retorts; apparatus or machinery applicable to the same.	13,251	5th Sept. 1850	James Rennie.
Manufacture of cast-metal retorts or other hollow castings.	13,998	8th March 1852	Edward Moseley Perkins.
Manufacturing retorts used for gas and other purposes; apparatus connected therewith [ <i>moulding retorts</i> ].	14,136	22nd May 1852	John Swarbrick.
<b>II.—Making, purifying, and storing Gas.</b>			
Obtaining inflammable gas from pit-coals, to burn without producing offensive smell.	2941	12th June 1806	Edward Heard.
Apparatus for making carbonated hydrogen gas from pit coal, and using the same for lighting mills, factories, houses, shops, lamps, &c., the lights being regulated by syphons.	3333	2nd May 1810	John Maiben.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GAS, &amp;c.—continued.</b>			
Producing gas to be used for the purpose of affording light.	3929	14th June 1815	John Taylor.
Apparatus for generating gas from coal or other substance, for lighting or heating houses, manufactories, and other places.	4139	10th July 1817	Richard Farmer Brain.
Purifying gas for the purpose of illumination - -	4142	19th July 1817	Rueben Phillips.
Apparatus for making, purifying, and storing gas -	4154	5th Aug. 1817	John Perks.
Purifying certain descriptions of gases - - -	4199	15th Jan. 1818	George Holworthy Palmer.
Making carburetted hydrogen gas for the purpose of illumination.	4306	10th Nov. 1818	John Grafton.
Construction, arrangement, and combination of apparatus used for the production of gas from pit-coal and other substances; purifying, storing, and delivering the same for the purpose of illumination; application of certain parts of the said apparatus to other useful purposes.	4351	23rd March 1819	John Outhett.
Producing inflammable gas from pit coal - -	4365	4th May 1819	Uriah Haddock.
Apparatus for purifying gas - - - -	4409	18th Nov. 1819	John Grafton.
Distilling off products of coal, and carbonizing coal in the process of making gas for illumination.	4483	11th July 1820	John Grafton.
Manufacture of inflammable gas [ <i>purifying by steam</i> ]	4808	30th June 1823	{ William Vero. Henry Samuel Crane.
Making and purifying inflammable gases by admission and admixture of atmospheric air.	4893	19th Jan. 1824	Simeon Broadmeadow.
Apparatus containing within itself the means of producing gas from oil and other oleaginous substances; burning such gas for the purpose of affording light; replacing the gas consumed.	4929	22nd March 1824	Charles Dumeny.
Production of gas - - - - -	4954	15th May 1824	John Holt Ibbetson.
Apparatus for producing gas from various substances.	4975	15th June 1824	Philip Taylor.
Apparatus for storing gas [ <i>causing it to be absorbed by charcoal</i> ].	5152	20th April 1825	Charles Ogilvy.
Production and purification of coal-gas [ <i>purifying by common salt</i> ] - - - -	5178	31st May 1825	{ Joseph Frederick Ledsam. Benjamin Cook.
Manufacture of gas [ <i>from resin</i> ] - - - -	5454	1st Feb. 1827	John Frederick Daniell.
Purifying coal-gas - - - - -	5471	2nd March 1827	Joseph Frederick Ledsam.
Apparatus for generating gas, to be applied to lights and other purposes.	5541	15th Aug. 1827	Henry Pinkus.
Purifying carburetted hydrogen gas for the purposes of illumination.	5563	17th Nov. 1827	Henry Pinkus.
Apparatus for making coal-gas - - - -	5688	10th June 1828	Richard Witty.
Apparatus for manufacturing coal-gas; method of arranging the same.	5712	2nd Oct. 1828	Edward Brunton.
Illumination, or producing artificial light [ <i>making gas from refuse materials</i> ].	5771	12th Feb. 1829	Edward Heard.
Manufacture of gas - - - - -	5900	12th Feb. 1830	Edward Cowper.
Generating gas for illumination; apparatus for the purpose [ <i>from pitch, resin, or tar, mixed with coal and sugar</i> ] - - - -	5926	5th April 1830	{ James Collier. Henry Pinkus.
Making gas for illumination; apparatus for the same [ <i>purifying by passing through red hot charcoal</i> ].	5966	5th Aug. 1830	James Down.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GAS, &amp;c.—continued.</b>			
Apparatus for manufacturing gas for illumination -	6123	4th June 1831	Thomas Spinney.
Manufacture of gas for illumination - - -	6179	12th Oct. 1831	George Lowe.
Increasing the illuminating power of coal-gas; converting the refuse arising in the manufacture of the same into an article of commerce not before produced therefrom; also conducting the process of condensation in the manufacture of gas.	6276	9th June 1832	George Lowe.
Obtaining gas from certain substances, or from oil produced therefrom.	6375	29th Jan. 1833	Richard Butler.
Making gas from coal or other substances - -	6381	6th Feb. 1833	{ Jonathan Dickson, James Skin.
Machinery for manufacturing gas for illumination;—partly applicable to other purposes.	6486	12th Oct. 1833	Stephen Hutchinson.
Manufacture of gas for illumination - - -	6680	25th Sept. 1834	Jean Baptiste Mollerat.
Apparatus for generating gas for illumination -	6844	2nd June 1835	John Malam.
Purifying gas for the purpose of illumination -	6884	17th Aug. 1835	Henry Phillips.
Purification of inflammable gases;—apparatus for effecting the same;—applicable to other purposes.	7024	8th March 1836	George Holworthy Palmer.
Apparatus for generating and purifying gas for illumination.	7129	22nd June 1836	William Barnett.
Generating gas - - - - -	7151	14th July 1836	Samuel Brown.
Obtaining gas from peat moss and peat turf or bog	7296	6th Feb. 1837	Michael Linning.
Manufacture of gas for illumination - - -	7858	2nd May 1837	Jean Baptiste Mollerat.
Manufacturing gas from coals - - - -	7454	2nd Nov. 1837	Richard Burch.
Producing gas for illumination - - - -	7581	28th Feb. 1838	{ Hippolyte François De Bouffet Montauban. John Carvalho De Medeiros.
Manufacturing gas for affording light and heat;—application of certain products thereof to useful purposes.	7632	5th May 1838	Edward Cobbold.
Manufacture of gas for affording light - - -	7748	26th July 1838	Alexander Croll.
Manufacturing gas for the general purposes of illumination.	8062	8th May 1839	Edward Oliver Manby.
Manufacture of gas - - - - -	8136	22nd June 1839	John Alexander Philip De Val Marino.
Methods of producing or manufacturing certain inflammable substances, and of applying the heat and light derived from certain inflammable substances to various useful purposes [ <i>decomposing water and obtaining hydrogen and oxygen gas</i> ].	8141	3rd July 1839	Alexander Cruickshanks.
Manufacture of gas - - - - -	8253	2nd Nov. 1839	Alexander Angus Croll.
Manufacture of gas for illumination - - -	8298	4th Dec. 1839	{ George Lowe. John Kirkham.
Manufacture of gas for illumination; preparation or manufacture of materials used in the purification of gas.	8577	29th July 1840	Alexander Angus Croll.
Improving the purity and illuminating power of gas	8883	16th March 1841	George Lowe.
Purification of gas - - - - -	9034	21st July 1841	Frederick Theodore Philippi
Manufacturing gas - - - - -	9062	4th Sept. 1841	John Grafton.
Apparatus and materials used in the manufacture of gas.	9070	8th Sept. 1841	Luke Hebert.
Manufacture of gas - - - - -	9213	11th Jan. 1842	Samuel Hearne Le Petit.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GAS, &amp;c.—continued.</b>			
Improvements in gas - - - - -	9237	27th Jan. 1842	Gottlieb Boccus.
Purifying gas for purposes of light - - -	9370	31st May 1842	Henry Phillips.
Manufacturing gas - - - - -	9416	12th July 1842	James Crutchett.
Removing impurities from coal-gas, for the purpose of light.	9612	26th Jan. 1843	Henry Phillips.
Apparatus for purifying gas - - - - -	9637	17th Feb. 1843	Charles Brook.
Manufacture of gas for illumination - - -	9663	16th March 1843	{ Alexander Angus Croll. William Richards.
Manufacture and purification of gas - - -	9942	16th Nov. 1843	George Scott.
Manufacture of gas - - - - -	10,031	30th Jan. 1844	{ Baptiste Buret. Frank Marius David.
Manufacture of gas for illumination - - -	10,096	7th March 1844	{ Alexander Angus Croll. William Richards.
Apparatus for making gas for illumination - -	10,170	30th April 1844	{ Robert Corden. Sydney Smith.
Manufacture of gas; apparatus employed therein -	10,211	4th June 1844	James Murdoch.
Purifying coal-gas - - - - -	10,289	15th Aug. 1844	William Cormack.
Purifying coal-gas - - - - -	10,326	26th Sept. 1844	James Malam.
Manufacture of gas; apparatus employed therein -	10,532	20th Feb. 1845	James Murdoch.
Purifying gas - - - - -	10,607	10th April 1845	William Cormack.
Purifying gas - - - - -	10,618	15th April 1845	Henry Phillips.
Production of gases; application thereof for purposes of illumination; apparatus and machinery used in manufacturing gas.	10,652	3rd May 1845	William Radley.
Manufacture of gas for lighting and heating - -	10,690	24th May 1845	John Constable.
Production of combustible gases - - - -	10,733	23rd June 1845	William Pollard.
Manufacturing gas - - - - -	10,739	26th June 1845	Alexander Angus Croll.
Purifying gas for illuminating; obtaining a valuable product in the process.	10,812	9th Aug. 1845	Frank Hills.
Manufacture of gas - - - - -	10,862	9th Oct. 1845	Henry Francis.
Purifying gas; treatment of products of gas-works -	11,006	20th Dec. 1845	John Robert Johnson.
Increasing the illuminating power of coal-gas; converting the refuse arising in the manufacture of the same into an article of commerce not before produced therefrom; also conducting the process of condensation in the manufacture of gas.	11,238	4th June 1846	George Lowe.
Manufacture of gas - - - - -	11,308	23rd July 1846	Augustus William Hillary.
Manufacture of gas - - - - -	11,405	8th Oct. 1846	George Lowe.
Apparatus for the manufacture of gas for illumination.	11,545	26th Jan. 1847	Richard Walker.
Means of producing gas, both in apparatus and materials from which the gas is produced.	11,654	15th April 1847	Stephen White.
Producing inflammable gases; also arrangement of apparatus employed for the purpose, which apparatus may be applied to other similar purposes.	11,661	17th April 1847	George Holworthy Palmer.
Manufacturing and purifying coal-gas; treating a residual product of such manufacture; preparing materials for purifying coal-gas.	11,944	4th Nov. 1847	Richard Laming.
Manufacture of gas - - - - -	12,066	14th Feb. 1848	{ John Watson. Edward Cart.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GAS, &amp;c.—continued.</b>			
Manufacture of gas - - - - -	12,185	26th May 1848	{ Abraham Solomons. Bondy Azulay.
Apparatus for manufacturing gas for illumination -	12,178	6th June 1848	Richard Barnes.
Manufacture of gas for illumination; manufacture of the residual products into articles of commerce.	12,203	6th July 1848	Joseph Clinton Robertson.
Manufacture of gas - - - - -	12,251	22nd Aug. 1848	Alexander Angus Croll.
Machinery applicable for purifying gases - -	12,270	21st Sept. 1848	Joseph Lillie.
Treating the oxydes of iron and obtaining products therefrom [ <i>inflammable gas</i> ].	12,297	26th Aug. 1848	William Longmaid.
Process of and apparatus for treating fatty bodies; application of the products to useful purposes [ <i>and using the refuse for the production of gas for lighting</i> ].	12,342	25th Nov. 1848	Pierre Armand le Comte de Fontainemoreau.
Treating peat and obtaining products therefrom [ <i>burning peat to obtain inflammable gas</i> ].	12,436	23rd Jan. 1849	Rees Reece.
Apparatus for manufacturing gas - - - - -	12,460	8th Feb. 1849	James Webster.
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [ <i>air-wheel to be used in the purification of coal-gas</i> ].	12,491	28th Feb. 1849	Henry Crosley.
Manufacture of gases - - - - -	12,536	26th March 1849	Stephen White.
Obtaining carbonated hydrogen gas, and applying the products resulting therefrom to various useful purposes.	12,718	1st Aug. 1849	Florentin Joseph De Cavaillon.
Production of heat in general [ <i>obtaining hydrogen gas by the decomposition of water; applying the same to the production of heat and light</i> ].	12,858	22nd Nov. 1849	Joseph Pierre Gillard.
Manufacturing gas, and obtaining substances for purifying the same.	12,867	28th Nov. 1849	Frank Clarke Hills.
Production of gas for purposes of light - - -	12,967	12th Feb. 1850	James Webster.
Purifying gas;—applicable in obtaining certain products from gas water and other similar fluids.	12,975	21st Feb. 1850	William Cormack.
Treating peat and other carbonaceous and ligneous matters so as to obtain products therefrom [ <i>car-buretted peat-gas</i> ].	12,990	7th March 1850	William Benson Stones.
Production of gas for illumination - - - -	13,057	23rd April 1850	{ Antoine Pauwels. Vincent Dubochet.
Manufacture of gas for illumination, and for other purposes; preparing materials to be employed in such manufacture; apparatus for making and using gas [ <i>consolidating peat for making gas</i> ] -	13,059	23rd April 1850	{ Richard Laming. Frederick John Evans.
Manufacture of gas - - - - -	13,066	30th April 1850	George Michiels.
Production of gases for lighting, heating, and motive-power purposes.	13,128	12th June 1850	Alfred Vincent Newton.
Manufacture of gas - - - - -	13,230	22nd Aug. 1850	William Dick.
Manufacture of gas - - - - -	13,334	12th Nov. 1850	George Robins Booth.
Manufacture of gas - - - - -	13,530	24th Feb. 1851	Henry Dircks.
Treatment of substances used in the production of gas for giving light and heat; treating some of the products of the said substances; apparatus employed in the manufacture of such gas; discharging and giving motion to gas - - -	13,593	15th April 1851	{ Thomas Greaves Barlow. Samuel Gore.
Improving the quality of the products disengaged in the carbonization of coal, for illuminating purposes.	13,642	27th May 1851	Alfred Vincent Newton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GAS, &amp;c.—continued.</b>			
Means of decomposing water or various electrolytes, of collecting hydrogen, of burning it or atmospheric air, separately or in combination.	18,645	29th May 1851	Henry W. Adams.
Apparatus for generating gas - - - -	18,785	23rd Oct. 1851	Donald Henderson.
Manufacture of gas for illumination; purification of gas; <i>treating the products arising from the manufacture of gas</i> - - - - [The words in italics disclaimed.]	18,904	20th Jan. 1852	{ George Low. Frederick John Evans.
Manufacturing and purifying gases; preparing certain substances for purifying the same.	19,012	24th Jan. 1852	Frank Clarke Hills.
Manufacture of gas [from seeds, leaves, fruits, and stems of plants].	14,116	8th May 1852	George Robins Booth.
Purification of coal-gas - - - -	14,147	29th May 1852	William Septimus Losh.
Manufacture of gas for lighting and heating } [purifying coal-gas] - - - - }	14,338	22nd July 1852	{ John Kirkham. Thomas Neusham Kirkham.
Manufacture of and burning gas; treatment of residual products of such manufacture [purifying gas].	14,380	12th Aug. 1852	Richard Laming.
Producing gas; application of the same to heat and light.	14,394	7th Sept. 1852	Peter Armand le Comte de Fontainemoreau.
Obtaining and applying light [gas] - - -	14,398	21st Oct. 1852	{ William Boggett. George Brooks Pettit.
<b>III.—Gasometers or Gas-holders.</b>			
Gasometers - - - -	4188	19th Dec. 1817	Arthur Howe Holdsworth.
Gasometer or gas-holder - - - -	4283	24th July 1818	Samuel Clegg.
Construction of gasometers [of oiled cloth] - -	4780	10th May 1823	William Caslon.
Increasing the security of portable reservoirs for gas.	5184	14th May 1825	Jean François Gravier.
Constructing gasometers, or machines for holding and distributing gas for illumination [with a moveable diaphragm] - - - -	5465	20th Feb. 1827	{ Charles Barwell Cole. William Nicholson.
Construction of portable vessels for containing gas; machinery for compressing such gas.	7447	19th Oct. 1837	Henry Quentin Tenneson.
Manufacturing gasometers or gas-holders - -	12,398	3rd Jan. 1849	William Knapton.
Arrangement and construction of gas-holders -	12,974	21st Feb. 1850	{ George Holworthy Palmer. Joshua Horton.
Construction of gas-holders - - - -	13,436	2nd Jan. 1851	Joshua Horton.
<b>IV.—Regulating the Flow of Gas.</b>			
Construction of gas regulators or governors - -	5089	1st Feb. 1825	Samuel Crosley.
Regulating the flow of gas from portable reservoirs -	5184	14th May 1825	Jean François Gravier.
Apparatus for a uniform supply of gas to gas-burners, through pipes.	6610	9th April 1835	Hugh Ford Bacon.
Apparatus for regulating the supply of gas to burners, and stopping off the same.	6651	22nd June 1835	Elias Carter.
Mechanism for regulating the supply of gas from a portable vessel or fixed pipe, communicating with a gasometer.	7447	19th Oct. 1837	Henry Quentin Tenneson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GAS, &amp;C.—continued.</b>			
Apparatus for regulating the supply of gas through pipes to gas-burners.	7536	11th Jan. 1838	Hugh Ford Bacon.
Apparatus for regulating the flow of gas through pipes to gas-burners, for uniformity of supply.	7939	17th Jan. 1839	Hugh Ford Bacon.
Regulating the flow of air and gaseous fluids - -	9265	25th Feb. 1842	William Newton.
Preventing the circulation of gas being impeded by frost.	10,326	26th Sept. 1844	James Malam.
Gas-fittings, and apparatus for controlling the passage of gas - - - - -	12,504	5th March 1849	{ Nathan Defries. George Brooks Pettit.
Gas-regulators - - - - -	12,614	18th Oct. 1849	{ David Hulett. John Birch Paddon.
Apparatus for regulating, measuring, and registering the flow of gases - - - - -	12,906	21st Dec. 1849	{ Frederick George Spray. George Nevett.
Regulating the circulation of gas - - - - -	13,057	23rd April 1850	{ Antoine Pauwels. Vincent Dubochet.
Measuring the pressure of gas - - - - -	13,332	9th Nov. 1850	Lucien Vidie.
Regulating the flow of the products disengaged in the carbonization of coal, for illuminating purposes [construction of apparatus].	13,642	27th May 1851	Alfred Vincent Newton.
<b>V.—Gas-meters.</b>			
Gas-meters - - - - -	4458	11th May 1820	John Malam.
Gas-meter - - - - -	5054	14th Dec. 1824	Sir William Congreve.
Gas-meter - - - - -	8020	20th Oct. 1830	Samuel Clegg.
Gas-meter - - - - -	6174	3rd Oct. 1831	Samuel Crosley.
Making or constructing gas-meters - - - - -	6898	19th March 1833	Miles Berry.
Gas-meters - - - - -	6844	2nd June 1835	John Malam.
Construction of meters or apparatus for measuring gas or liquids.	7221	12th Nov. 1836	Bertie Paterson.
Gas-meters - - - - -	7674	7th June 1838	Samuel Clegg.
Gas-meters - - - - -	7705	27th June 1838	Nathan Defries.
Preparing, constructing, and adapting certain parts of gas-meters - - - - -	7751	28th July 1838	{ George Holworthy Palmer. George Bertie Paterson.
Gas-meters - - - - -	7996	6th March 1839	{ George Holworthy Palmer. George Bertie Paterson.
Gas-meters - - - - -	8154	16th July 1839	John Hemming.
Apparatus for measuring and registering the quantity of gas or other fluid passed through the same.	8167	24th July 1839	John Hanson.
Meters for measuring volumes of gas, water, and other fluids when passed through them.	8393	22nd Feb. 1840	John Hanson.
Gas-meters - - - - -	8739	16th Dec. 1840	Charles Botten.
Gas-meters - - - - -	8754	23rd Dec. 1840	Joseph Barker.
Dry gas-meters - - - - -	8850	18th Feb. 1841	George Edward Noone.
Supplying gas [gas-meters] - - - - -	8883	16th March 1841	George Lowe.
Construction of meters for measuring water or other fluids.	9021	7th July 1841	Andrew M'Nab.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GAS, &amp;c.—continued.</b>			
Meter for measuring gas and other aëriform fluids -	9030	15th July 1841	{ Thomas Peckston. Philip Le Capelain.
Apparatus for measuring gas and other fluids -	9344	9th May 1842	Thomas Edge.
Meters for gas and other fluids - - - -	9449	18th Aug. 1842	{ Nathan Defries. Nathaniel Fortescue Taylor.
Apparatus used in measuring gas or other fluids -	9663	16th March 1843	{ Alexander Angus Croll. William Richards.
Gas-meters - - - - -	9701	19th April 1843	Carl Ludewig Farwig.
Gas-meters - - - - -	9904	12th Oct. 1843	Stephen Hutchison.
Apparatus used for measuring gas - - -	10,096	7th March 1844	{ Alexander Angus Croll. William Richards.
Apparatus for measuring gas and other fluids; manufacturing the same.	10,355	17th Oct. 1844	Alexander Wright.
Apparatus for measuring gas - - - -	10,440	18th Dec. 1844	Nathaniel Fortescue Taylor.
Gas-meters and gas-meter cases - - - -	10,535	3rd March 1845	William Smith. *
Apparatus for measuring gas - - - -	10,652	3rd May 1845	William Radley.
Measuring gas - - - - -	10,739	26th June 1845	Alexander Angus Croll.
Gas-meters - - - - -	10,747	2nd July 1845	Stephen Hutchison.
Gas-meters - - - - -	10,909	3rd Nov. 1845	Richard Archibald Broo- man.
Gas-meters - - - - -	11,205	13th May 1846	Alexander Angus Croll.
Gas-meters - - - - -	11,224	27th May 1846	Nathan Defries.
Gas-meters - - - - -	11,269	29th June 1846	William Smith.
Gas-meters - - - - -	11,339	17th Aug. 1846	Joseph Gray.
Gas-meters - - - - -	11,494	15th Dec. 1846	{ Thomas Friend Dickinson. John Falkous.
Manufacture of gas-meters - - - - -	11,516	31st Dec. 1846	Thomas Edge.
Burners for obtaining light and heat; apparatus to be used therewith [ <i>gas-meters</i> ].	12,053	8th Feb. 1848	Richard Clarke Burleigh.
Gas-meters - - - - -	12,131	20th April 1848	Samuel Clegg.
Gas-meters - - - - -	12,222	26th July 1848	{ John King. Henry Medhurst.
Gas-meters - - - - -	12,532	20th March 1849	William Parkinson.
Gas-meters - - - - -	12,614	18th Oct. 1849	{ David Hulet. John Birch Paddon.
Gas-meters - - - - -	12,690	15th Dec. 1849	Charles Lizars.
Gas-meters - - - - -	13,337	12th Nov. 1850	Henry Medhurst.
Apparatus for measuring gas and other fluids -	13,468	21st Jan. 1851	Charles Roper Mead.
<b>VI.—Supplying and consuming Gas.</b>			
Conveying gas or other fluid by pipes of purified earth.	3803	18th April 1814	John Read.
Gas apparatus - - - - -	3968	9th Dec. 1815	Samuel Clegg.
Gas-light apparatus and process - - - -	4106	1st March 1817	Daniel Wilson.
Gas apparatus - - - - -	4184	5th Dec. 1817	William Stratton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>Gas, &amp;c.—continued.</b>			
Apparatus for delivering gas - - - - -	4351	23rd March 1819	John Outhett.
Gas apparatus - - - - -	4832	18th Aug. 1823	John Malam.
Gas apparatus - - - - -	4978	22nd June 1824	John Hobbins.
Apparatus for supplying coal gas for useful purposes	5663	10th June 1828	Richard Witty.
Supplying gas to the consumer - - - - -	6466	12th Oct. 1833	Stephen Hutchison.
Gas apparatus - - - - -	6838	19th May 1835	Alexis Dumoulin.
Apparatus employed in transmitting gas for the purposes of affording light and heat.	7734	13th July 1838	James Milne.
Apparatus for supplying and consuming gas - -	8535	9th June 1840	Samuel Wagstaff Smith.
Supplying gas - - - - -	8683	16th March 1841	George Lowe.
Supplying gas for lighting towns and other places -	9157	13th Nov. 1841	Isaac Dodds.
Improvements in the supply of gas - - - - -	9213	11th Jan. 1842	Samuel Hearne Le Petit.
Apparatus used in transmitting gas or other fluids -	9663	16th March 1843	{ Alexander Angus Croll. William Richards.
Apparatus for transmitting gas - - - - -	10,096	7th March 1844	{ Alexander Angus Croll. William Richards.
Machinery for distributing gases - - - - -	10,652	3rd May 1845	William Radley.
Transmitting gas - - - - -	10,730	26th June 1845	Alexander Angus Croll.
Transmitting gas for lighting railways, and for other purposes - - - - -	11,129	11th March 1846	{ George Hinton Bovill. Robert Griffiths.
Apparatus for transmitting gas - - - - -	12,251	22nd Aug. 1848	Alexander Angus Croll.
Discharging and giving motion to gas - - - - -	13,593	15th April 1851	{ Thomas Greaves Barlow Samuel Gore.
Machinery applicable to the transmission of æri-form bodies - - - - -	13,784	22nd Oct. 1851	{ John Platt. Christian Schiele.
<b>VII.—Gas-burners.</b>			
Machine for preventing the improper escape of gas, and the danger and nuisance consequent thereon [an appendage to a burner].	4830	14th Aug. 1823	Henry Constantine Jennings.
Apparatus for burning and replacing oil-gas - -	4929	22nd March 1824	Charles Dumeny.
Gas lamp or burner - - - - -	5807	2nd July 1829	Thomas Kilby.
Construction of gas-burners - - - - -	6483	12th Oct. 1833	Stephen Hutchison.
Gas-burners - - - - -	7284	2nd Feb. 1837	James Cook.
Gas-burners ("Argand burners") - - - - -	7504	9th Dec. 1837	Benjamin Cook.
Apparatus connected with the consumption of gas -	7581	28th Feb. 1838	{ Hippolyte François De Bouffet Montauban. John Carvalho De Medeiros.
Apparatus employed for consuming gas - - - -	8126	22nd June 1839	John Alexander Philip De Val Marino.
Gas-burners - - - - -	8446	25th March 1840	Henry Smith.
Apparatus for consuming gas for the purpose of light.	8487	30th April 1840	John Inkson.
Gas-burners - - - - -	8877	15th March 1841	John Dockree.
Apparatus for burning gas - - - - -	9070	8th Sept. 1841	Luke Hebert.
Gas-burners - - - - -	9136	2nd Nov. 1841	Jeremiah Bynner.
Effecting combustion of inflammable gases produced from coal.	9215	11th Jan. 1842	Charles Wye Williams.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GAS, &amp;c.—continued.</b>			
Gas-burners - - - - -	9237	27th Jan. 1842	Gottlieb Boccia.
Apparatus for consuming gas - - - - -	9416	12th July 1842	James Crutchett.
Ventilating gas-burners, and burners for consuming tallow and other matters.	9679	25th March 1843	Robert Faraday.
Manufacture of gas-burners - - - - -	9989	14th Dec. 1843	William Young.
Combustion of gas - - - - -	9942	16th Nov. 1843	George Scott.
Improvements applicable to the ventilation of apartments in which gas and other combustible matters are consumed by ignition [ <i>ventilating gas-burner</i> ].	10,146	18th April 1844	Donald Grant.
Combustion of gas - - - - -	10,977	4th Dec. 1845	John Leslie.
Burning gas - - - - -	11,405	8th Oct. 1846	George Lowe.
Gas-burners - - - - -	11,421	22nd Oct. 1846	Etienne Abram Maccaud.
Gas-burners - - - - -	11,623	16th March 1847	Jean Joseph Hezard Petit.
Combustion of gas for the purposes of light - -	11,630	22nd March 1847	John Leslie.
Effecting the combustion of gas and other substances burned for the production of light [ <i>burners</i> ].	11,780	3rd July 1847	John Hunt.
Burners for obtaining light and heat; apparatus to be used therewith.	12,053	8th Feb. 1848	Richard Clarke Burleigh.
Gas-burners - - - - -	12,194	26th June 1848	Richard Clark.
Gas-burners - - - - -	12,312	2nd Nov. 1848	George Arthur Biddell.
Gas-burners - - - - -	12,458	8th Feb. 1849	Henry Headley Parish.
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [ <i>gas-burner</i> ].	12,491	28th Feb. 1849	Henry Crosley.
Apparatus for the consumption of gases - -	12,536	26th March 1849	Stephen White.
Apparatus for burning gas - - - - -	13,066	30th April 1850	George Michiels.
Manufacture of gas-burners - - - - -	13,530	24th Feb. 1851	Henry Dircks.
Gas-burners - - - - -	13,626	10th May 1851	Harding Hallen.
Burning hydrogen or atmospheric air, separately or in combination.	13,645	29th May 1851	Henry W. Adams.
Apparatus for gas-lighting - - - - -	13,731	28th Aug. 1851	Pierre Armand le Comte de Fontainemoreau.
Obtaining and applying light [ <i>making gas-burners</i> ] -	13,783	22nd Oct. 1851	{ William Boggett. George Holworthy Palmer.
Gas-burners - - - - -	13,984	23rd Feb. 1852	Peter Armand le Comte de Fontainemoreau.
Burning of gas, &c. - - - - -	14,260	12th Aug. 1852	Richard Laming.
Gas-burners - - - - -	14,322	14th Oct. 1852	Walter Ricardo.
Obtaining and applying light [ <i>gas-burners</i> ] - -	14,333	21st Oct. 1852	{ William Boggett. George Brooks Pettit.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GLASS.</b>			
<b>I.—Manufacturing.</b>			
Making glass with sea-coal, pit-coal, or any other fuel not being timber or wood.	24	22nd May 1623	Sir Robert Maunsell, Knt.
Furnaces for melting glass and other minerals -	83	25th June 1635	Captain Thornease Francke.
Making crystal glass - - - - -	134	10th Nov. 1661	{ Martin Clifford. Thomas Paulden.
Making crystal glass and looking-glass plates -	140	19th Oct. 1662	Thomas Tilson.
Pots for melting glass metal and other metals -	146	20th July 1664	Samuel Hutchinson.
Manufacture of crystalline glass, resembling rock-crystal.	176	16th May 1674	George Ravenscroft.
Making Normandy window-glass - - - - -	209	16th Dec. 1679	{ John Bellingham. Nicholas Gubin.
Making metals for the manufacture of glass for windows; also red crystal glass; casting glass, particularly for looking-glass plates - - -	268	12th June 1691	{ Robert Hooks. Christopher Dodsworth.
Engines, kilns and other tools for making looking-glass plates, and plates for panels of rooms and chimney-pieces.	365	18th May 1700	Edward Sayer.
Engines, kilns and instruments for the making of large rough looking-glass, plate-glass panels, and chimney-pieces for rooms - - - - -	366	12th Sept. 1700	{ Richard Lawrence du Manoir. Louis Anne St Marie.
Composition to flux and make glass - - -	491	14th April 1727	Nicholas Tooke.
Preserving window-glass when annealing in the kiln.	545	15th Feb. 1734	Humphry Perrott.
Making red transparent glass - - - - -	707	28th Nov. 1755	Mayer Oppenheim.
Making pots for making crown-glass and all sorts of green glass - - - - -	744	17th Jan. 1760	{ William Riccards. Richard Russell.
Using the refuse of alum, or alum-slam, in place of kelp, for making green glass.	815	22nd Sept. 1764	Evan Deer.
Making glass from one single material - - -	822	23rd Jan. 1765	John Scott.
Composition or flux for making glass - - -	846	22nd April 1766	Thomas Delaval.
Making opaque or red glass - - - - -	969	20th Oct. 1770	Mayer Oppenheim.
Composition for making glass - - - - -	9138	3rd Oct. 1796	Ralph Wedgwood.
Making all kinds of glass - - - - -	2589	5th March 1802	John Donaldson.
Making, spreading, and flattening German sheet-glass, plate-glass, or other spread glass requiring a polished surface.	2812	23rd Jan. 1805	John Robert Lucas.
Manufacture of and working various kinds of glass	2875	9th Aug. 1805	William Scott.
Processes for manufacturing glass - - - - -	3731	9th Aug. 1813	Edward Heard.
Methods of making glass - - - - -	3807	5th May 1814	Joseph Price.
Methods of manufacturing glass - - - - -	4011	23rd March 1816	William Macnamara.
Manufacture of crown-glass or German sheet-glass	4148	5th Aug. 1817	Charles Attwood.
Manufacturing mineral and vegetable alkali; and the application, so far as regards mineral alkali, as an improvement in the modes now in use, particularly in the manufacture of kelp [ <i>for producing glass</i> ].	4383	22nd June 1819	Charles Attwood.
Manufacture and working plate-glass and other glass	6671	1st Sept. 1834	{ George Joseph Green. John Ogden Bacchus. William Gammon.
Manufacture of glass - - - - -	6702	22nd Oct. 1834	{ James Hartley. John Hartley.
Manufacture of plate-glass - - - - -	7141	4th July 1836	Robert Walter Swinburne.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GLASS—continued.</b>			
Manufacture of plate-glass - - - - -	7257	15th Dec. 1836	Robert Walter Swinburne.
Manufacture of certain descriptions of glass - - -	7261	11th Jan. 1837	Charles Thornton Con- thupe.
Manufacture of glass - - - - -	7477	16th Nov. 1837	{ William Neale Clay. Joseph Denham Smith.
Improvements applicable to the making of glass, and for other useful purposes - - - - }	7528	11th Jan. 1838	{ Charles Watts. Thomas Rainforth Teb- butt.
Manufacture of glass - - - - -	7596	19th March 1838	Robert Lucas Chance.
Manufacture of glass - - - - -	7618	21st April 1838	James Timmins Chance.
Strengthening or beautifying glass - - - -	7786	30th Aug. 1838	William Dolier.
Manufacture of glass, and production of other vitrified matters, applicable to architectural pur- poses.	7849	3rd Nov. 1838	Adolphus Henri Erneste Ragon.
Manufacture of glass - - - - -	7886	1st Dec. 1838	James Hartley.
Manufacture of plate glass - - - - -	8448	25th March 1840	Joseph Crosfield.
Methods or processes for the manufacture of plate- glass.	8702	12th Nov. 1840	Charles Dod.
Manufacture of certain glass - - - - -	9100	23rd Sept. 1840	{ Henry Bessemer. Charles Louis Schonberg.
Chemical composition for use in the preparation of glass or other media of light.	9320	15th April 1842	John Byron Dawes.
Manufacture of glass, to be used for purposes to which plate-glass and window-glass are usually applied.	9878	4th June 1842	Benjamin Aingworth.
Manufacture of glass - - - - -	9407	7th July 1842	James Timmins Chance.
Manufacture of glass - - - - -	9815	6th July 1843	James Hartley.
Manufacture of glass - - - - -	9939	16th Nov. 1843	John Withers.
Manufacture of quarries and other panes of glass for windows - - - - - }	10,278	30th July 1844	{ Arthur Powell. Nathaniel Powell.
Manufacture of crown-glass - - - - -	10,292	15th Aug. 1844	Alexander Ewing.
Manufacture of glass; casting, rolling, moulding, blowing, and drawing the same - - - }	10,669	17th May 1845	{ Apsley Pellatt. Frederick Pellatt.
Construction of plate, crown, and sheet glass - -	10,688	22nd May 1845	Henry Deacon.
Making window-glass - - - - -	10,988	10th Dec. 1845	William Dimes.
Manufacture of window and other glass - - -	11,002	12th Dec. 1845	Isaac Hawker Bedford.
Manufacture of glass and other vitreous products -	11118	5th March 1846	{ William Nicholson. George Wadsworth.
Manufacture of glass - - - - -	11,185	28th April 1846	{ James Timmins Chance. Henry Badger.
Manufacture of glass; machinery and apparatus connected therewith.	11,317	30th July 1846	Henry Bessemer.
Manufacture of looking-glass - - - - -	11,327	11th Aug. 1846	William Kayser.
Construction of flattening-kilns - - - - -	11,384	24th Sept. 1846	Henry Deacon.
Manufacture of glass - - - - -	11,397	8th Oct. 1846	William Farthing.
Manufacture of glass - - - - -	11,749	15th June 1847	James Timmins Chance.
Manufacture of plates, sheets, or panes of glass -	11,794	17th July 1847	Henry Bessemer.
Manufacture of glass - - - - -	11,891	7th Oct. 1847	James Hartley.
Manufacture of glass - - - - -	12,067	14th Feb. 1848	{ James Timmins Chance. Edward Chance.
Manufacture of glass - - - - -	12,101	22nd March 1848	Henry Bessemer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GLASS—continued.</b>			
Manufacture of glass; apparatus connected therewith.	12,450	31st Jan. 1849	Henry Bessemer.
Process of manufacturing or finishing plates, sheets, or panes of glass.	12,486	28th Feb. 1849	Obed Blake.
Manufacture of glass, and preparation of certain materials to be used therein - - - - }	12,505	5th March 1849	{ William Henry Balmain. Edward Parnell.
Manufacture of glass - - - - -	12,554	28th March 1849	Henry Howard.
Manufacture of glass; machinery and apparatus connected therewith.	12,595	1st May 1849	James Godfrey Wilson.
Machinery to be used in the manufacture of glass -	12,966	11th Feb. 1850	William Blinkhorn.
Manufacture of glass; forming vessels and articles of glass; construction of annealing-kilns.	13,082	25th May 1850	Edwin Pettit.
Manufacture of glass - - - - -	13,470	21st Jan. 1851	Samuel Clift.
Manufacture of glass - - - - -	13,699	28th July 1851	James Timmins Chance.
Bending and annealing glass - - - - -	13,751	25th Sept. 1851	{ Frederick Hale Thompson. George Foord.
Manufacture of glass - - - - -	13,763	2nd Oct. 1851	William Hodge.
Manufacture of glass - - - - -	14,048	29th March 1852	James Timmins Chance.
<b>II.—Polishing.</b>			
Mill-work to polish looking-glass and coach-glass plates and marble stones.	347	10th Jan. 1696	Thomas Savery.
Working crystal or glass and other matters different from metal, for use in clock-work or watch-work, and in other engines - - - - }	371	1st May 1704	{ Nicholas Facio. Peter Debaufre. Jacob Debaufre.
Machine for polishing plate-glass - - - - -	983	26th Feb. 1771	Thomas Aldersey.
Machine for polishing glass - - - - -	1337	19th Sept. 1782	John Joad.
Machine for polishing plate and other glass - -	2009	29th Aug. 1794	Matthew Kemp.
Machinery for polishing plate and other glass - -	3119	14th March 1808	George Nathaniel Pollard
Smoothing, polishing, or otherwise preparing glass decanters and certain other articles.	6640	7th July 1834	John Gold.
Machinery for smoothing and polishing plate-glass and glass vessels - - - - }	7177	1st Sept. 1836	{ Robert Griffiths. John Gold.
Composition for polishing glass - - - - -	9337	30th April 1842	Henry Barclay.
<b>III.—Painting, gilding, and ornamenting.</b>			
Manufacturing and ordering roots and barks with other ingredients, useful for limners and painters, for perforating glass and for other purposes - }	325	19th Sept. 1693	{ Matthew Elliston. Robert Dodsworth. Samuel Weale. Robert Man.
Preparing glass, stones, shell, coral, horn, and bone, for painting and gilding.	980	17th Jan. 1771	George Starkey.
Painting, spangling, gilding and silvering glass for ornamenting carriages, sedan chairs, buildings, furniture, musical instruments, or any other matters.	1162	28th Feb. 1778	John Kent Tarrant.
Composing stained glass with unstained glass, and making the same into sheets, tables, vessels, and ornaments.	1268	22nd Nov. 1780	William Peckitt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GLASS—continued.</b>			
Ornamenting glass by a composition of colours impressed on the glass by copper plates and wooden blocks.	1296	25th June 1781	Henry Baker.
Ornamenting looking-glasses and other kinds of furniture, with carved and moulded glass in relief, plain and coloured;—applicable to many other purposes.	1508	7th Nov. 1786	Thomas Rogers.
Applying enamel colours for ornamenting vessels of glass.	2900	26th Nov. 1805	Samuel Anness.
Ornamenting glass in imitation of engraving or etching.	2946	4th July 1806	John Davenport.
Gilding glass - - - - -	3304	13th Feb. 1810	Peter Warburton.
Encrusting into glass vessels and utensils, white or other coloured, painted or otherwise ornamented figures, arms, crests, cyphers and any other ornaments made of composition, metal, or other suitable material.	4424	18th Dec. 1819	Apsley Pellatt.
Forming glass vessels and utensils with ornamental figured patterns impressed thereon.	6091	9th March 1831	Apsley Pellatt.
Applying impressions from engravings in various colours to glass, &c. - - - - -	6162	17th Sept. 1831	{ John Potts. Richard Oliver. William Wainwright Potts.
Ornamenting glass - - - - -	6817	14th April 1835	Goodwin Embrey.
Producing patterns in one or more colours, to be transferred to glass.	6938	3rd Dec. 1835	William Wainwright Potts.
Executing ornaments, devices, colours or stains, on glass.	7270	10th Jan. 1837	William Cooper.
Combination of vitrified and metallic substances, applicable to the manufacture of ornaments and to the decoration of domestic articles; also applicable to church windows and ship-lights.	8779	11th Jan. 1841	William Lacey.
Operating in certain processes for ornamenting glass - - - - -	9141	9th Nov. 1841	{ John Carr. Aaron Ryles.
Composition for ornamenting glass and articles for interior and other decorations.	9275	4th March 1842	James Clement.
Ornamenting and colouring glass - - - - -	9424	23rd July 1842	Charles Robert Ayers.
Coating glass with silver, for looking-glasses and other uses.	9968	25th Nov. 1843	Thomas Drayton.
Ornamenting glass - - - - -	10,046	10th Feb. 1844	Joseph Gibson.
Manufacture of window and other glass [staining and etching].	11,002	12th Dec. 1845	Isaac Hawker Bedford.
Silvering and coating glass - - - - -	11,317	30th July 1846	Henry Bessemer.
Ornamenting glass - - - - -	11,775	3rd July 1847	Eliza Tonge.
Manufacture of specula for various purposes [electroplating the backs to protect the quicksilver].	11,828	3rd Aug. 1847	Theodore Fletcher.
Ornamenting glass - - - - -	12,097	14th March 1848	{ Frederick William Michael Collins. Alfred Reynolds.
Silvering glass and other surfaces - - - - -	12,358	4th Dec. 1848	Thomas Drayton.
Manufacturing ornamented surfaces when glass and other substances are used.	12,817	18th Oct. 1849	George Shove.
Connecting glass with other matters - - - - -	12,976	21st Feb. 1850	William Mayo.
Ornamenting vessels and articles of glass - - - - -	13,082	25th May 1850	Edwin Pettit.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GLASS—continued.</b>			
Staining and silvering articles of glass - - -	13,229	22nd Aug. 1850	{ Frederick Hale Thomson. Thomas Robert Mellish.
Ornamenting glass - - - - -	13,762	2nd Oct. 1851	William Henry Ritchie.
Ornamenting and decorating articles of glass and other ceramic manufactures with various kinds of metal [by means of a galvanic battery].	14,080	20th April 1852	John Ridgway.
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<b>GRINDING, CUTTING, AND CRUSHING.</b>			
<b>I.—Corn and other Grain,—Mills for grinding.</b>			
Making locks, sluices, bridges, cuts, cranes, mills, and other inventions necessary and convenient for grinding corn.	3	1st July 1617	John Cason.
Mills for grinding corn - - - - -	111	26th Nov. 1637	{ George Manby. Thomas Liddell.
Engine for grinding corn - - - - -	114	14th Dec. 1637	{ Oliver Lloyd. Mathias Burges. Thomas Barbar.
Mill for grinding rapeseed and linseed - - -	169	3rd April 1673	Lewis Bayly.
Floating mill for grinding all sorts of grain - -	217	28th April 1682	John Joachim Becker.
Mill moved with jackwork and wheels, to grind corn by manual labour, without the help of wind or water - - - - -	326	9th Oct. 1693	{ Matthew Elliston. Thomas Winter.
Floating engine for grinding corn by force of water	412	8th March 1717	John Thompson.
Bush or box for the spindle-neck of a corn-mill to run in.	479	5th June 1725	Richard Newsham.
Engine to be moved by the pressure of air into any building where the air is so rarefied that the said pressure from without is sufficient to turn wheels for grinding corn and performing other operations.	505	21st Nov. 1728	John Payne.
Machine moved by weight and draught, for grinding, stamping, or other work where mechanical power may be applied.	539	21st March 1733	Walter Churchman.
Machine for grinding corn - - - - -	609	6th Sept. 1744	William Perkins.
Engine for grinding corn - - - - -	658	24th Nov. 1750	William Perkins.
Cast metallic rolls, for crushing, flattening, bruising or grinding, malt, oats, beans, or any kind of grain.	675	24th Jan. 1753	Isaac Wilkinson.
Machine or mill for grinding corn, wheat, and other grain; also preparing utensils and materials used in divers manufactories, and conveniently set up and worked in any small room.	889	24th Dec. 1767	Richard Hayne.
Making hand corn-mills, for grinding wheat in private families - - - - -	903	6th Oct. 1768	{ Samuel Freeth. Sampson Freeth.
Machine for grinding corn - - - - -	994	18th July 1771	James Story.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GRINDING, CUTTING, &amp;c.—continued.</b>			
Hand-mill, made of stone or marble, for grinding and preparing wheat, malt, oats, peas, beans, and other grain, and for other purposes, and which may be worked by animal as well as by other power.	1080	26th Nov. 1774	Samuel Watson.
Mills for grinding and dressing beans, peas, wheat, and other grain and flour, and to be worked either by men or horses, wind or water.	1089	12th June 1775	George Rawlinson.
Machine which when applied to a steam-engine or any perpendicular motion, either by means of levers or any reciprocal movement, will cause such movement to become circular, without the medium of a water-wheel, for grinding, wheat, malt, and other grain, and other uses in mechanical operations where human or animal strength is inadequate.	1213	10th March 1779	Matthew Wasbrough.
Making mills for grinding wheat, barley, beans, peas, groats, rice, Indian corn, and seeds.	1214	22nd March 1779	Richard Dearman.
Mill for grinding corn - - - - -	1283	23rd Aug. 1780	James Pickard.
Machines for grinding grain - - - - -	1567	30th Oct. 1786	Walter Taylor.
Regulator for grinding corn - - - - -	1628	15th Nov. 1787	Thomas Mead.
Machinery for regulating the process of grinding and dressing in wind and other mills;—applicable to other purposes.	1706	29th Oct. 1789	Stephen Hooper.
Mill, machine or machinery suitable for grinding grain; may be worked by water, wind, manual labour, steam, or by horses or other cattle.	1794	3rd March 1791	William Shorland.
Horizontal windmill for grinding corn and for other purposes.	2076	8th Dec. 1795	Daniel Maunsell.
Machinery for grinding corn - - - - -	2158	24th Jan. 1797	Robert Ferryman.
Apparatus for pulverizing grain - - - - -	2241	5th June 1798	John Palmer.
Grinding corn, malt and other grain, with steel or iron-hardened plates - - - - -	2336	2nd Aug. 1799	{ William Hunt. Wastel Cliffe.
Making hand stone corn-mills, for grinding wheat and other grain into flour.	2489	25th April 1801	Thomas Wright.
Floating mill or engine for grinding grain, to be worked by tides or currents of water.	2533	20th Aug. 1801	Benjamin Hawkins.
Mill for grinding corn, to be worked by water, wind, horses, hand, or otherwise.	2540	18th Sept. 1801	Zachariah Barrett.
Machine for crushing oats and grinding malt and barley.	2753	9th Feb. 1804	Thomas Paasmore.
Rotative engine for grinding corn - - - - -	3256	9th Aug. 1809	Edward Lane.
Machine for grinding or cutting malt - - - - -	3368	2nd Aug. 1810	Charles Williams.
Application of earths and other materials to useful purposes [ <i>baking, partially vitrifying, and using as grindstones</i> ].	3727	31st July 1813	Joseph Hamilton.
Machinery for grinding corn - - - - -	3796	1st April 1814	George Smart.
Mills for grinding malt - - - - -	3916	23rd May 1815	Archibald Kenrick.
Improvements applicable to mills - - - - -	4416	4th Dec. 1819	Samuel Lambert.
Constructing mills or machines chiefly applicable to prison discipline [ <i>treadmills</i> ].	4847	11th Sept. 1823	William Hase.
Mill or machine for grinding wheat and other articles "French military mill."	4885	8th Jan. 1824	Francis Devereux.
Machine for grinding or crushing seeds and other oleaginous substances, for the purpose of expressing oil therefrom.	5466	20th Feb. 1827	William Benecke.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GRINDING, CUTTING, &amp;c.—continued.</b>			
Processes, utensils, apparatus, machinery and operations applicable to the preparing, extracting and preserving various articles of food, the component parts of which utensils, apparatus, and machinery are of different dimensions, proportionate to the different uses in which they are employed, and may be separately applied in preparing, extracting, and preserving food, and in other useful purposes [corn-mill].	5523	12th July 1827	Robert Vazie.
Constructing mills and millstones for grinding -	5861	2nd Nov. 1829	John M-Curdy.
Machine for grinding or crushing seeds and other oleaginous substances, for the purpose of abstracting oil therefrom;—applicable, with certain modifications, to other purposes.	6043	6th Dec. 1830	Henry Blundell.
Metallic mills for grinding corn and various other materials.	6152	11th Aug. 1831	David Selden.
Mills or machines for grinding or reducing grain and other substances.	6195	15th Dec. 1831	Claude Marie Savoye.
Mills or machinery worked by wind, applicable to grinding corn, and for other purposes.	6331	8th Nov. 1832	John Burlingham.
Machinery for grinding corn and other materials -	6536	1st Jan. 1834	{ Thomas Sharp. Richard Roberts.
Mills for grinding wheat and other grain;—applicable to other purposes.	6676	13th Sept. 1834	Miles Berry.
Construction of mills for grinding corn - - -	7594	19th March 1838	William Horsefield.
Mills for reducing grain and other substances to a pulverized state; apparatus for dressing or bolting pulverized substances - - - - -	8647	24th Sept. 1840	{ Alexander Dean. Evan Evans.
Apparatus for grinding wheat and other grain - -	9299	21st March 1842	Zachariah Parkes.
Dressing millstones - - - - -	9557	15th Dec. 1842	Moses Poole.
Machines for grinding grain and other substances -	9596	19th Jan. 1843	Luke Hebert.
Machinery for beating, cleansing and crushing animal and vegetable materials and substances [conical rotating fans or beaters] - - -	9828	10th July 1843	{ George Parsons. Richard Clyburn.
Machinery used for cutting and grinding for agricultural purposes - - - - -	9842	15th July 1843	{ Robert Ransome. Charles May. Arthur Biddell. William Worby.
Grinding wheat and other substances - - - -	9876	25th Aug. 1843	Bryan Corcoran.
Mill for grinding grain, with or without sifter or dresser, and for cobbing, bruising, crushing, splitting or dividing, seed, pulse, berries, or other articles.	10,069	24th Feb. 1844	Francis Studley.
Grinding wheat and other grain - - - -	10,165	30th April 1844	Robert Gordon.
Manufacture of artificial stone for grinding and other purposes [millstones]	10,360	22nd Oct. 1844	Frederick Ransome.
Machinery for grinding vegetable substances - -	10,467	21st Jan. 1845	James Tarver.
Machinery for grinding grain - - - -	10,776	21st July 1845	William Broughton.
Machinery for dressing stones for grinding corn, grain, and other substances.	11,014	22nd Dec. 1845	Samuel Heseltine.
Grinding grain and other substances - - - -	11,084	11th Feb. 1846	Alfred Vincent Newton.
Mills for grinding; manufacture of certain parts of mills.	11,389	2nd Oct. 1846	William Weild.
Grinding wheat and other grain - - - -	11,468	1st Dec. 1846	Jacques François Pinel.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GRINDING, CUTTING, &amp;c.—continued.</b>			
Apparatus for reducing vegetable and other substances to small particles [ <i>employing rotating friction surfaces in connection with vessels having a percolated bed; also apparatus for slicing or scraping horseradish, cucumbers, &amp;c.</i> ].	11,846	26th Aug. 1847	Thomas Dansom Pruday.
Machinery for grinding grain and other substances -	11,901	14th Oct. 1847	Robert Stirling Newall.
Mechanism for reducing, grinding, and sifting seeds and other substances.	12,058	12th Feb. 1848	Luke Hebert.
Machinery for grinding corn and seed - - -	12,088	8th March 1848	George Royce.
Mills for grinding - - - - -	12,328	16th Nov. 1848	Samuel Adams.
Corn-mill - - - - -	12,424	16th Jan. 1849	Carey McClellan.
Mills for grinding wheat and other grain - -	12,506	5th March 1849	Samuel Banks.
Mills for grinding wheat and other grain. - -	12,702	9th July 1849	John Goodier.
Machinery for grinding - - - - -	12,704	12th July 1849	{ George Cottam. Edward Cottam.
Grinding corn or grain - - - - -	12,839	24th Jan. 1850	Walter Westrup.
Grinding wheat - - - - -	12,851	29th Jan. 1850	Joel Spiller.
Grinding - - - - -	12,955	31st Jan. 1850	Etienne Joseph Hanon Valck.
Mills and machinery applicable to grinding corn and to other similar purposes.	13,025	26th March 1850	James Preece.
Grinding wheat and other grain - - - - -	13,033	5th April 1850	Charles Seely.
Machinery for grinding corn and other similar substances; applying steam-power to such machinery }	13,065	30th April 1850	{ Charles May. Robert Leggett.
Grinding corn and other substances - - -	13,070	7th May 1850	George Hurwood.
Machinery for bruising, crushing, and expressing juice from vegetable substances.	13,201	31st July 1850	James White.
Mills for grinding and pulverizing grain - -	13,214	6th Aug. 1850	William Crosskill.
Grinding corn and seed - - - - -	13,405	12th Dec. 1850	George Royce.
Cutting and rasping vegetable substances - -	13,416	19th Dec. 1850	Philip Nind.
Mills for grinding wheat and other grain - -	13,566	24th March 1851	Peter Armand le Comte de Fontainemoreau.
Construction of apparatus for grinding grain and other substances.	13,810	13th Nov. 1851	George Sheppard.
Grinding wheat and other grain - - - - -	13,867	19th Dec. 1851	Christopher Randa.
Machinery for grinding wheat and other grain -	13,892	8th Jan. 1852	Thomas Barnett.
Mills for grinding [ <i>dressing millstones</i> ] - - -	14,202	6th July 1852	{ Thomas Blakey. Joseph Skaife.
<b>IX.—Coffee, Pepper, and similar Produce.</b>			
Making mills for grinding coffee, pepper, and all kinds of spice.	1214	22nd March 1779	Richard Dearman.
Mills for grinding coffee - - - - -	3916	23rd May 1815	Archibald Kenrick.
Metallic mills for grinding coffee and various other materials.	6152	11th Aug. 1831	David Selden.
Mechanism for reducing, grinding, and sifting coffee and other substances.	12,058	8th Feb. 1848	Luke Hebert.
Apparatus for grinding coffee - - - - -	12,766	13th Sept. 1849	Apoleon Pierre Preterre.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GRINDING, CUTTING, &amp;c.—continued.</b>			
<b>XII.—Starch.</b>			
Machine for grinding starch for hair-powder - -	1567	30th Oct. 1786	Walter Taylor.
Apparatus for beating or triturating viscous or gelatinous substances.	12,775	20th Sept. 1849	Josiah Lorkin.
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<b>IV.—Dyewoods, Bark, and Charcoal.</b>			
Mill for grinding logwood and other hard woods -	169	3rd April 1673	Lewis Bayly.
Grinding logwood and other wood for dyeing -	233	6th March 1684	{ William Somers. Laurence Crabb.
Engine for pounding charcoal, to make powder of -	271	22nd Aug. 1691	John Tyzacks.
Engine for cutting and rasping logwood and other dyewoods, to be worked by water or by hand or horse labour.	345	15th Nov. 1695	Abel Cottey.
Engine or mill for grinding wood dry, for the purposes of dyeing.	396	2nd April 1714	John Wilks.
Mill-stones placed horizontally and worked with wind or water, for grinding bark for tanning leather, also Brazil-wood, logwood, madder, fustic, indigo, saltpetre, and all other woods, drugs, roots, minerals, and colours used in dyeing.	1074	27th June 1774	George Shepley.
Machine for breaking, grinding, and pulverizing patched or chopped bark for tanning, and different kinds of wood and other hard substances.	2205	22nd Dec. 1797	James Weldon.
Machine for grinding bark and other articles;—applicable to other purposes.	2475	10th Feb. 1801	James Weldon.
Machine to chop, grind, riddle, and pound bark -	2505	21st May 1801	Thomas Bagnall.
Mill for grinding bark - - - - -	2537	3rd Sept. 1801	{ James Whitby. George Bodley. John Davis.
Mill for tearing, crushing, and preparing oak bark for the use of tanners.	2571	29th July 1805	Thomas Chapman.
Machinery for rasping, grating, and reducing into small parts or powders, wood, drugs, and other substances for the use of dyers - - - - -	2916	12th March 1806	{ Edward Dampier. Edward Jackson. Thomas Shackleton.
Mill for grinding bark and other articles;—applicable to other purposes.	3374	7th Sept. 1810	James Weldon.
Machinery for sawing, rasping, or dividing dyewoods or tanners' bark - - - - -	3491	5th May 1840	{ Thomas Gadd Matthews. Robert Leonard.
Machine for cutting, slicing, grinding, and rasping -	10,391	29th May 1845	Charles William Firchild.
Mechanism for reducing, grinding, and sifting bark and other substances.	12,058	8th Feb. 1848	Luke Hebert.
Machinery for grinding, splitting, pulverizing, and crushing bones, bark, and other hard substances.	13,214	6th Aug. 1850	William Crosskill.
Machinery for chipping, rasping, and shaving dyewood and other materials; apparatus connected therewith.	13,584	7th April 1851	William Barker.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GRINDING, CUTTING, &amp;c.—continued.</b>			
<b>V.—Colours.</b>			
Machine for grinding colours to be used in painting; also pounding and sifting colours and all hard substances usually ground with a muller on a flat stone, by a motion imitating that of the hands.	421	23rd May 1718	Marshall Smith.
Millstones for grinding colours - - -	1074	27th June 1774	George Shepley.
Pulverizing or grinding colouring materials - -	3341	22nd May 1810	William Docksey.
Machinery for livigating or grinding colours used in painting, and which machinery may be worked by any suitable power;—applicable to other purposes.	4891	19th Jan. 1824	George Pollard.
Metallic mills for grinding paints and various other materials.	6152	11th Aug. 1851	David Selden.
Machinery for grinding colours and other substances.	10,776	21st July 1845	William Broughton.
Machinery for grinding paints and other substances	11,901	14th Oct. 1847	Robert Stirling Newall.
Mills for grinding paint and other soft substances -	13,214	6th Aug. 1850	William Crosskill.
Machinery for grinding pigments, colours, and other matters.	14,049	29th March 1852	Charles Jack.
<b>VI.—Drugs.</b>			
Making mills for grinding drugs - - -	1214	22nd March 1779	Richard Dearman.
Pulverizing calomel for medical purposes - -	3081	17th Nov. 1807	Joseph Jewells.
Metallic mills for grinding drugs and various other materials.	6152	11th Aug. 1831	David Seldon.
Machinery for grinding drugs and other substances -	10,776	21st July 1845	William Broughton.
<b>VII.—Sugar-canes.</b>			
Mill or engine for grinding sugar-canes - - -	385	26th July 1709	Jeremiah Weischamer.
Mill for grinding sugar-canes - - -	1054	2nd March 1773	Edward Woollery.
Mill for grinding sugar-canes - - -	1059	14th Jan. 1774	William Gilchrist.
Mill for grinding sugar-canes - - -	1128	14th June 1776	William Gilchrist.
Mill for squeezing or grinding sugar-canes - -	1135	25th Oct. 1776	Thomas Wright.
Sugar-mills - - -	2019	30th Oct. 1794	John Collinge.
Construction of mills for grinding sugar-canes -	2418	24th June 1800	Thomas Paton.
Addition to cattle-mills and water-mills for grinding sugar-canes; also to any other machine requiring additional power.	3073	19th Oct. 1807	William Pedder.
<b>VIII.—Sugar.</b>			
Mill, machine or machinery suitable for powdering sugar, and may be worked by water, wind, manual labour, steam, or by horses or other cattle.	1794	3rd March 1791	William Shorland.
Method of manufacturing powder sugar from raw sugar alone, and from syrup of sugar alone, and from the mixtures of raw sugar and syrup of sugar.	2899	26th Nov. 1805	James Ingram.
Cutting and pulverizing sugar loaves and lumps -	5435	26th March 1811	James Bell.
Machinery for breaking or crushing sugar - -	4344	23rd Feb. 1819	Thomas Brocksopp.
Apparatus for cutting and dividing sugar - -	10,570	18th March 1845	Francis Molineux.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GRINDING, CUTTING, &amp;c.—continued.</b>			
Apparatus for dividing lump sugar - - -	10,755	3rd July 1845	William Symes.
Mechanism for reducing, grinding, and sifting sugar and other substances.	12,058	8th Feb. 1848	Luke Hebert.
Apparatus for cutting or breaking lump sugar and other vegetable substances.	13,936	29th Jan. 1852	William Smith.
<b>IX.—Flints, Quartz, and other Minerals.</b>			
Engine for pounding minerals; pounding and bruising all sorts of goods.	271	27th Aug. 1691	John Tyzacke.
Engine for beating, pounding, or stamping mineral ores - - - - -	288	22nd Jan. 1692	{ Charles Morton. Samuel Weale.
Engine for pounding and grinding minerals or other hard substances - - - - -	311	17th Jan. 1693	{ George Nation. John Dewee. Thomas Puckle.
Machine for pounding and sifting ores and all hard substances usually ground with a muller on a flat stone, by a motion imitating that of the hands.	421	23rd May 1718	Marshall Smith.
Engine for working and preparing flint stones for making white pots.	487	5th Nov. 1726	Thomas Benson.
Engine for grinding flint for making white wares -	536	14th Jan. 1732	Thomas Benson.
Mill for grinding mineral ores - - - - -	715	27th May 1757	John Rowe.
Grinding, washing and working gold, silver, copper, lead, and its ores, slag, waste, and sweepings.	894	8th March 1768	Robert Albion Cox.
Machine and process for dividing hard substances -	3372	4th Feb. 1800	Samuel Miller.
Grinding or pulverizing flints, potters' clay, glazing materials.	3341	22nd May 1810	William Docksey.
Machinery to be used in the manufacture of bricks, tiles, or other articles to be made of clay or other plastic substance;—partly applicable to other purposes [ <i>for grinding the clay</i> ].	5985	18th Aug. 1830	Samuel Roscoe Bakewell.
Machine for crushing or grinding sand, stones, clays, and other substances.	9996	28th Dec. 1843	George Benjamin Thorneycroft.
Improvements applicable to grinding cements and other substances.	10,165	30th April 1844	Robert Gordon.
Machinery for splitting, breaking, stamping, crushing and pressing stone and other materials.	10,413	2nd Dec. 1844	James Nasmyth.
Construction and operation of parts of flint-grinding mills, and other grinding mills.	11,005	15th Dec. 1845	Thomas Findler.
Preparing for pulverization flint stone, china stone, ores, minerals, spars, sands, earths, and other substances - - - - -	12,789	27th Sept. 1849	{ William Browne. Richard Rowe Veale.
Mills for grinding, splitting, pulverizing, and crushing ore and other hard substances.	13,214	6th Aug. 1850	William Crosskill.
Crushing gold quartz and metallic ores - - -	13,939	29th Jan. 1852	Isham Baggs.
Machinery for crushing pulverizing, and grinding stone, quartz, and other substances.	14,187	24th June 1852	Charles James Wallis.
Machinery for reducing and pulverizing ores, minerals, stones, and other substances - - -	14,225	15th July 1852	{ Thomas Richards. Samuel Grose.
Machinery for manufacturing bricks and tiles [ <i>drying, grinding, moulding, and screens for screening clay</i> ].	14,234	20th July 1852	James M'Henry.
Machinery applicable to crushing and pulverizing ores and other hard substances.	14,815	7th Oct. 1852	Solomon Andrews.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GRINDING, SETTING, POLISHING.</b>			
<b>I.—Grinding and Setting.</b>			
<b>1. (Cutlery and Saws; Razor-strops, Hones, and Grindstones;—cleaning Knives.)</b>			
Box and axletree for grindstones - - - -	2423	8th July 1800	John Lockett.
Making a tablet, or artificial whetstone, for sharpening all sorts of cutlery ("cotific tablets").	3098	23rd Jan. 1808	Henry Johansen.
Hanging grindstones so as to secure them from breaking in the centre.	3301	12th Feb. 1810	John Slater.
Machine for giving a fine edge to razors, knives, scissors, and other cutlery [ <i>with cylindrical files</i> ].	5512	28th June 1827	John Felton.
Apparatus to be used for whetting or sharpening the edges of the blades of razors, pen-knives, and other instruments [ <i>with diagonal files</i> ].	5849	6th May 1828	Francis Westby.
Instruments for sharpening knives and other edge-tools; machinery for manufacturing the same.	5858	15th Oct. 1829	William Church.
Apparatus to be used for sharpening the edges of blades of razors, pen-knives, and other instruments [ <i>mounting a hone</i> ].	5875	26th Nov. 1829	Francis Westby.
Tablet for sharpening razors, pen-knives, surgical instruments, chisels, plane-irons, and other instruments, by hones, Turkey stones, or Welsh stones.	6979	11th Jan. 1836	John Ware Higham.
Razor-strops; material for covering the same, which material is also applicable to other purposes.	9504	2nd Nov. 1842	Joseph Edwards.
Apparatus for grinding and polishing cutlery and other articles so as to obviate the deleterious effects produced by the dust and metallic particles resulting therefrom.	9770	10th June 1843	John Tappan.
Machinery for cleaning, polishing, and sharpening knives, forks, and other articles.	10,225	12th June 1844	George Kent.
Machinery employed for sawing timber [ <i>sharpening the teeth of saws</i> ].	10,891	23rd Oct. 1845	Thomas Taylor.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>portable knife and fork cleaner combined</i> ].	11,149	25th March 1846	Charles Smith.
Apparatus for setting saws - - - -	11,804	19th July 1847	Joseph Tall.
Machinery for sharpening or grinding tools or other surfaces.	12,735	9th Aug. 1849	William Furness.
Saw-sets, and apparatus and machinery for manufacturing the same.	13,198	31st July 1850	Matthew Trattles.
Retaining and drawing off aerated and other liquids; charging vessels with gaseous fluids;—applicable to vessels for holding solid matters [ <i>apparatus for cleaning knives</i> ].	13,857	11th Dec. 1851	Thomas Masters.
Apparatus for cleaning knives - - - -	13,920	24th Jan. 1852	George Kent.
<b>2. (Cards for carding Fibrous Substances.)</b>			
Cutting teeth for carding wool and tow - - -	2887	6th Nov. 1806	James Royston.
Machinery for pointing wire applicable for making cards and pins.	6917	29th Oct. 1835	John Birkby.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GRINDING, SETTING, &amp;c.—continued.</b>			
Machinery for grinding or setting the teeth of cards or other apparatus employed for carding cotton-wool or other fibrous substances.	9091	20th Sept. 1841	Joseph Hulme.
Machinery for grinding and sharpening cards used in carding cotton or other fibrous material.	9726	15th May 1843	Robert Alexander Kennedy.
Apparatus for sharpening or grinding the points of wire-cards for carding-engines - - - }	9788	15th June 1843	{ George Lister. Edwin Budding.
Machinery for grinding the cards of carding-engines	11,645	29th March 1847	Samuel Hardacre.
Apparatus for preparing or setting the cards of carding-engines.	13,114	11th June 1850	William Edward Newton.
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<b>II.—Grinding and Polishing.</b>			
<b>1. (Stone, Marble, and Slate.)</b>			
Engine for polishing marble - - - - -	152	19th Feb. 1667	Richard Calthrop.
Mill-work to grind and polish marble stones - -	347	10th Jan. 1696	Thomas Savery.
Machine for polishing marble - - - - -	421	23rd May 1718	Marshall Smith.
Machine for facing and polishing marble and stone	664	11th Oct. 1751	Henry Watson.
Machine for polishing or planeing marble, flag-stones, paving and other stones.	904	28th Oct. 1768	Anthony Drummond.
Machinery for grinding, smoothing, and polishing marble, slate, and stone - - - - - }	7177	1st Sept. 1836	{ Robert Griffiths. John Gold.
Tools and apparatus for smoothing and polishing the surface of stone, slate, and other materials.	7684	12th June 1838	Richard March Hoe.
Polishing and finishing slate; application of the same to domestic and other purposes.	8883	8th Feb. 1840	George Eugène Magnus.
Polishing stone and other substances - - - - -	9049	21st Aug. 1841	{ George Harvig. Felix Moreau.
Polishing stones, marble, and other substances -	9180	16th Dec. 1841	{ William Neilson. David Lyon. Peter M'Onie.
Polishing marble, stone, and other materials used in the construction and decoration of houses.	10,985	10th Dec. 1845	Henri Auguste Bex.
Machine for grinding and polishing [stone] - - -	14,211	6th July 1852	Frederick Sang.
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<b>2. (Glass.)</b>			
Grinding optical glasses in figures which are not spherical.	149	14th May 1666	Francis Smethwick.
Grinding, polishing and diamonding glass plates, for looking-glasses, coaches, and other uses, by the motion of water and wheels.	203	5th June 1678	John Roberts.
Mill-work to grind and polish looking-glass and coach-glass plates.	347	10th Jan. 1696	Thomas Savery.
Machine for grinding looking-glass - - - - -	421	23rd May 1718	Marshall Smith.
Machine for grinding and polishing plate-glass -	983	26th Feb. 1771	Thomas Aldersey.
Machine for grinding and polishing glass, and at the same time sifting and serving the sand used for that purpose.	1337	19th Sept. 1782	John Joad.
Grinding and applying spectacle glasses - - -	1359	13th March 1783	Addison Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>GRINDING, SETTING, &amp;c.—continued.</b>			
Machine for grinding and polishing plate or other glass.	2009	29th Aug. 1794	Matthew Kemp.
Machinery for grinding, smoothing and polishing plate and other glass, for looking-glasses, mirrors, and various other articles.	3119	14th March 1808	George Nathaniel Pollard.
Machinery for grinding covers or stoppers for jars, bottles, and other vessels made of china, stone, or other earthenware.	6523	11th Dec. 1833	John Wisker.
Cutting, grinding, smoothing, polishing, or otherwise preparing glass decanters and certain other articles.	6640	7th July 1834	John Gold.
Machinery for grinding, smoothing, and polishing } plate-glass, glass vessels, spangles, and drops - }	7177	1st Sept. 1836	{ Robert Griffiths. John Gold.
Grinding and smoothing plate-glass, crown-glass, and sheet-glass.	10,686	22nd May 1845	Henry Deacon.
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3. (Metal.)			
Flat-grinding thin metal plates - - - -	582	16th Jan. 1742	John Baskerville.
Polishing malleable metal - - - -	740	14th July 1759	Thomas Blockley.
Machinery for grinding spindles - - - -	4243	8th April 1818	George Whitham.
Manufacturing and polishing tinned and iron ladles, spoons and other articles, for culinary, domestic, and other purposes - - - -	6214	24th Jan. 1832	{ Joseph Maybury. John Maybury. Joseph Maybury, junior.
Machinery for grinding and polishing metal surfaces	7683	12th June 1838	Richard March Hoe.
Polishing metals and other substances - - -	9049	21st Aug. 1841	{ John Harvig. Felix Moreau.
Machinery for burnishing - - - -	13,505	11th Feb. 1851	William Weild.
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<b>III.—Polishing Powders, Compositions, and Emery Paper.</b>			
Powder useful in polishing and sharpening all fine steel edged instruments.	1188	30th March 1778	Humphrey Jackson.
Polishing apparatus for household purposes [ <i>for cleaning knives, spoons, &amp;c.</i> ].	5240	13th Aug. 1825	Joseph Alexander Taylor.
Substitute for glass, sand, emery, and other scouring paper or substances [ <i>sand, emery, &amp;c. glued to cloth</i> ].	6044	6th Dec. 1830	Richard Edwards.
Liquid or composition for polishing furniture and other articles " <i>Williams' French-polish reviver</i> ."	6474	21st Sept. 1833	FitzWalter Williams.
Compositions for cutting, grinding, or polishing glass, porcelain, stones, metals, and other hard substances.	9337	30th April 1842	Henry Barclay.
Manufacture of emery-paper, emery-cloth, and other scouring fabrics.	12,727	1st Aug. 1849	Richard Kemaley Day.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>H.</b>			
<b>HEARSEES, COFFINS, AND BIERES.</b>			
Chasing coffin furniture . . . . .	920	7th March 1769	John Pickering.
Making coffins in cast-iron and other metals, and preserving the same.	1307	8th Nov. 1781	Thomas Wright.
Making coffins . . . . .	2128	20th July 1796	Gabriel Aughtie.
Making coffins; machines for conveying coffins; appendages for the same.	4250	23rd April 1818	Edward Lilli eBridgman.
Securing the bodies of the dead in coffins [ <i>to a false bottom, by chains or hoops</i> ].	4843	11th Sept. 1823	John Hughes.
Making coffins so. as to prevent the removal of bodies therefrom after interment [ <i>securing the lid by means of screws tapped and case-hardened</i> ].	5239	12th Aug. 1825	James Butler.
Construction of coffins . . . . .	7775	15th Aug. 1838	Matthew Warton Johnson.
Construction of hearses, mourning and other carriages.	9086	20th Sept. 1841	George Shillibeer.
Coffins- . . . . .	9845	25th Feb. 1843	{ John Huggerston Leathes. William Kirrage.
Materials for and modes of applying coverings to coffins for the dead.	9983	13th Dec. 1843	Robert Kirby.
Coffins . . . . .	10,012	16th Jan. 1844	James Lindley.
Coffins . . . . .	10,773	21st July 1845	Patrick Sandeman.
Manufacture of coffins . . . . .	11,214	22nd May 1846	Zachariah Major Parkes.
Manufacture of coffins . . . . .	11,512	31st Dec. 1846	{ George David Myers. William Cooper. James Wansbrough.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, EVAPORATING, AND CONCENTRATING.</b>			
<b>I.—Obtaining and applying or communicating Heat.</b>			
Extracting from fuel a larger quantity of caloric than ordinary.	3875	16th Jan. 1815	Jean Frederic Marquis de Chabannes.
Effecting certain purposes or processes requiring a higher temperature than that of boiling water.	3988	2nd March 1816	Bryan Donkin.
Production of heat by the application of known principles.	4046	12th Feb. 1822	George Holworthy Palmer.
Producing heat, and applying the same to apparatus for various purposes.	4746	8th Jan. 1823	James Neville.
Applying heat to certain useful purposes - -	5427	13th Dec. 1826	{ Charles Pearson. Richard Witty. William Gillman.
Communicating heat for various purposes - -	5609	19th Jan. 1828	{ Joshua Taylor Beale. George Richardson Porter.
Apparatus and machinery for conducting heat and applying the same in the operations of washing, scouring, cleansing, fulling, dressing, dyeing, and finishing woollen cloths, and calendering, straining, glossing, polishing, and finishing silks, cottons, linens, woollens, and all other goods to which the same may be applicable.	5766	5th Feb. 1829	Joseph Rayner.
Apparatus for communicating heat by means of the circulation of fluids - - - - - }	5833	20th Aug. 1829	{ Henry Cruger Price. Charles Fox Price.
Distillation [communicating heat by means of a hot-air bath].	5837	21st Aug. 1829	William Shand.
Apparatus for the application of heat for useful purposes.	6026	4th Nov. 1830	Joel Benedict Nott.
Apparatus for the application of heat for useful purposes.	6205	22nd Nov. 1831	Joel Benedict Nott.
Applying heat to various manufactures and to other purposes.	6283	19th July 1832	William Daubney Holmes.
Process for generating heat - - - - -	6404	30th March 1833	John Obadiah Newell Rutter.
Means of producing heat - - - - -	6503	5th Nov. 1833	Richard Holme.
Construction of apparatus for applying heat to various purposes.	6508	19th Nov. 1833	John Cooper Douglass.
Applying heat to the manufacture of alkalies and salts, and for smelting and working ores, metals, and earths.	7555	30th Jan. 1838	Charles Flude.
Warming - - - - -	7675	7th June 1838	{ John Coope Haddan. John Johnson.
Applying heat for generating steam and for other purposes where heat is required.	7851	3rd Nov. 1838	Charles Flude.
Apparatus for supplying atmospheric air in the production of heat.	8003	15th March 1839	Richard Lamb.
Apparatus for applying the heat of fuel - - -	8095	6th June 1839	Charles Andrew Caldwell.
Methods of producing or manufacturing certain inflammable substances, and of applying the heat and light derived from certain inflammable substances to various useful purposes [heating by the flame of liquid tar].	8141	3rd July 1839	Alexander Cruickshanks.
Communicating heat for cooking and other purposes.	8202	21st Aug. 1839	Stephen Joyce.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
Apparatus for transmitting heat by circulating water.	8811	16th Dec. 1839	Angier March Perkins.
Apparatus for applying combustible gas to the purposes of heat.	8624	10th Sept. 1840	Charles Delbruck.
Apparatus for heating by the circulation of hot water.	8804	21st Jan. 1841	Angier March Perkins.
Producing heat from the combustion of certain kinds of fuel.	8979	8th June 1841	James Colley March.
Producing and applying heat - - - -	9008	26th June 1841	Moses Poole.
Heating - - - - -	9270	26th Feb. 1842	Benjamin Gillot.
Apparatus for producing, regulating, and dispersing heat.	9451	18th Aug. 1842	Goldsworthy Gurney.
Applying heat in the manufacture of artificial fuel, preparation of asphalt, and for other purposes.	9477	29th Sept. 1842	Edward Bell.
Burning anthracite or stone coal, and other fuel, for obtaining heat - - - - -	9639	21st Feb. 1843	{ John Kymer. Thomas Hodgson Leigh- ton.
Modifying the transmission of heat - - -	9681	28th March 1843	John Sylvester.
Applying heat from various combustibles, to manufacturing and other purposes.	9784	15th June 1843	George Robins Booth.
Applying heat to brine or other matters contained in vessels.	9966	13th Dec. 1843	John Sylvester.
Apparatus for torrefying and calcining - - -	10,053	14th Feb. 1844	Andrew Kurtz.
Heating apparatus - - - - -	10,068	24th Feb. 1844	Robert Rettie.
Applying heat for generating steam - - -	10,263	17th July 1844	Jacques Bidault.
Economizing and applying heat obtained from known processes.	10,303	29th Aug. 1844	Jean Albert Palmaert.
Apparatus for heating - - - - -	10,304	5th Sept. 1844	HipolyteAuguste Richard.
Apparatus for purposes of heating - - -	10,499	28th Jan. 1845	George James Norton.
Apparatus for heating - - - - -	10,503	30th Jan. 1845	Matthew Allen.
Apparatus for heating and warming - - -	10,974	4th Dec. 1845	Edward Dell.
Retaining and applying heat for generating steam and heating water.	10,986	10th Dec. 1845	Edward Green.
Heating - - - - -	11,046	20th Jan. 1846	John Braithwaite.
Production of heat in general - - - -	11,080	11th Feb. 1846	Joseph Pierre Gillard.
Applying heat for heating; apparatus connected therewith.	11,111	25th Feb. 1846	John Britten.
Obtaining heat during the manufacture of coke; its application to various purposes.	11,477	7th Dec. 1846	Eugène Bazile.
Heating - - - - -	11,546	28th Jan. 1847	John Braithwaite.
Application of heat to the preparation, desiccation and preservation of bread stuffs, confectionery, pulse, meats, vegetables, and other edible substances - - - - -	11,947	6th Nov. 1847	{ Robert Davison. William Symington.
Applying heat obtained from the combustion of fuel.	11,976	25th Nov. 1847	Richard Coad.
Production and application of heat - - -	11,977	15th Dec. 1847	George Ambrose Michaux.
Generation and application of heat - - -	12,043	27th Jan. 1848	John Collins.
Apparatus for saving and applying heat - - -	12,062	10th Feb. 1848	Felix Douche.
Generating, indicating, and applying heat - - -	12,110	5th April 1848	{ Thomas John Knowlys. William Fillis.
Heating;—partly applicable to other purposes -	12,129	20th April 1848	John Britten.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
Applying coke or residual products of coke to heating.	12,456	8th Feb. 1849	Henry Fisher.
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes.	12,491	28th Feb. 1849	Henry Crosley.
Heating apparatus, and applying hot and warm air to manufacturing and other purposes where the same are required.	12,517	14th March 1849	Alexander Swan.
Application of gases for heating - - - -	12,536	26th March 1849	Stephen White.
Generation and application of heat - - - -	12,736	9th Aug. 1849	Thomas John Knowlly.
Application of gas for producing and radiating heat	12,773	20th Sept. 1849	David Owen Edwards.
Production of heat in general - - - -	12,858	22nd Nov. 1849	Joseph Pierre Gillard.
Treating peat and other carbonaceous and ligneous matters so as to obtain products therefrom [obtaining heat by the use of peat gas forcibly mixed with atmospheric air].	12,990	7th March 1850	William Benson Stones.
Heating - - - - -	13,003	11th March 1850	William Crane Wilkins.
Obtaining and applying heat - - - -	13,004	12th March 1850	James Nasmyth.
Producing and applying heat - - - -	13,271	3rd Oct. 1850	{ William Boggett. William Smith.
Heating and regulating temperature [regulating temperature by a uniform supply of fuel].	13,296	24th Oct. 1850	John Grant.
Electro-magnetic apparatus for producing heat -	13,302	24th Oct. 1850	Edward Clarence Shepard.
Generating heat - - - - -	13,368	7th Dec. 1850	Archibald Turner.
Obtaining heat; apparatus connected therewith -	13,414	19th Dec. 1850	{ George Henry Bach- hoffner. Nathan Defries.
Apparatus for heating by gas - - - -	13,530	24th Feb. 1851	Henry Direks.
Generating and applying heat - - - -	13,547	10th March 1851	George Robins Booth.
Heating - - - - -	13,568	24th March 1851	Hector Ledru.
Apparatus for heating by gas - - - -	13,599	24th April 1851	{ William Smith. Thomas Phillips.
Obtaining and applying heat [heating by gas-burners]	13,783	22nd Oct. 1851	{ William Boggett. George Holworthy Palmer.
Apparatus for heating - - - - -	13,785	23rd Oct. 1851	Donald Henderson.
Applying heat - - - - -	13,971	13th Feb. 1852	{ Edmund Morewood. George Rogers.
Electro-magnetic apparatus for production of heat -	14,197	6th July 1852	Edward Clarence Shepard.
Obtaining heat by the agency of electricity - -	14,198	6th July 1852	Martyn John Roberts.
Apparatus applicable to heating and other similar purposes.	14,254	7th Aug. 1852	Alexander Mills Dix.
Heating; apparatus connected therewith - -	14,283	3rd Sept. 1852	William Henry James.
Obtaining and applying heat [heating baths, stoves, &c., by means of gas]. - - - -	14,333	21st Oct. 1852	{ William Boggett. George Brooks Pettit.
Application of the heat arising from the burning of cement, chalk, limestone, and other substances, to the generation of steam - - - -	14,337	23rd Oct. 1852	{ James Lamb. Joseph Menday.
<b>II. — Heating Water, Air, and other Fluids.</b>			
Boiling and heating water and other liquids - -	310	— — — 1692	Anthony Forester Smith.
Heating water for driving engines, and for brewing, distilling, and other uses.	513	7th Aug. 1729	John Allen.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
Conveying the heat arising from the fires of coke ovens, and adapting the same to heating water for baths;—also applicable to other purposes requiring fire or heat.	1689	23rd June 1789	Right Hon. Henry Seymour Conway.
Apparatus for heating air equally to any requisite degree, and method of applying the air so heated, with peculiar advantage, efficacy, and economy of the fuel, to the numerous purposes for which stoves and kilns have heretofore been employed.	2583	19th Feb. 1802	Bryan Higgins.
Applying fire by machinery for heating liquors; applying such heated liquors to use.	2660	28th Nov. 1802	Thomas Martin.
Apparatus for heating water or other liquids - -	2726	29th July 1803	Arthur Woolf.
Process for heating fluids for the purposes of art and manufacture.	3236	15th May 1809	William Johnson.
Vessels for heating fluids - - - - -	3296	1st Feb. 1810	David Cock.
Heating baths - - - - -	3504	30th Oct. 1811	John Lowndes.
Machinery, also the application of steam, to communicate heat and motion to wines, porter, and other liquids and fluids in cellars and stores.	3522	23rd Jan. 1812	George Dodd.
Applying air for manufacturing and domestic purposes, and employing therein improved fireplaces and bricks [ <i>heating water or air for warming rooms, drying goods, &amp;c.</i> ].	3664	13th March 1813	Benford Deacon.
Application of heat to the purposes of boiling water and other fluids, and to other purposes; apparatus for performing the same.	3669	22nd March 1813	William Robert Wale King.
Vessels for heating fluids and other substances -	3690	5th May 1813	Charles Broderip.
Combining and applying known principles for producing pure and fresh warm air.	3698	14th March 1815	Thomas Potts.
Warming air or liquids - - - - -	3663	5th Dec. 1815	Jean Frederick Marquis de Chabannes.
Warming liquids - - - - -	4192	19th Dec. 1817	Jean Frederick Marquis de Chabannes.
Boiling liquids - - - - -	4453	9th May 1820	John Hague.
Heating fluids or solids - - - - -	4541	5th March 1821	Jonathan Dickson.
Heating liquids in boilers, and thereby increasing the production of steam.	4633	7th Jan. 1822	Richard Ormrod.
Apparatus connected with portable mineral or river-water baths and linen-warmers, for heating water.	5048	4th Dec. 1824	John Hilary Suwerkrop.
Apparatus for heating fluids - - - - -	5406	24th Aug. 1826	James Yandall.
Apparatus for heating air by means of steam - -	5462	12th Feb. 1827	William Stratton.
Apparatus for economizing fuel in heating water and air;—applicable to various purposes [ <i>mode of heating air by hot water discharged from the eduction pipe of a steam-engine, or otherwise</i> ].	5931	24th April 1830	Paul Descroizilles.
Adaptation of apparatus for heating fluids or liquids.	6189	15th Nov. 1831	Thomas Brunton.
Machinery for transferring caloric from æriform or fluid bodies to other bodies of like description;—applicable to other purposes.	6416	22nd May 1833	Christopher Robinson.
Apparatus used in the communication or transmission of heat to æriform, liquid, and solid bodies.	6789	11th March 1835	John Sylvester.
Improvements applicable to heating fluids - -	6985	21st Jan. 1836	Robert Bowie.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
Apparatus for heating, generating, and cooling fluids; engines to be actuated by such fluids.	7854	6th Nov. 1838	William Henry James.
Apparatus for heating fluids - - - - -	7916	20th Dec. 1838	Andrew Smith.
Apparatus for raising the temperature of water for baths, and for other uses - - - - }	8373	5th Feb. 1840	{ Wilkinson Steele. Patrick Sanderson Steele.
Heating liquids and æriform bodies - - - -	9913	18th Oct. 1843	Thomas Morton Jones.
Heating air for blast-furnaces and other uses - -	10,158	27th April 1844	John Dixon.
Hot-air generators - - - - -	10,309	12th Sept. 1844	{ John Chanter. George Lodge.
Manufacture of iron [heating air for blast-furnaces]	10,475	16th Jan. 1845	James Palmer Budd.
Boiling liquors, applicable to many purposes of domestic use, particularly tea or table urns.	10,623	17th April 1845	James Startin.
Applying heat for heating water - - - - -	10,986	10th Dec. 1845	Edward Green.
Heating water - - - - -	11,324	10th Aug. 1846	George Lodge.
Heating and boiling liquids - - - - -	12,447	30th Jan. 1849	{ Alexander Wilkins. William Stacey.
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [heating water and other fluids].	12,491	28th Feb. 1849	Henry Crosley.
Applying gas to heat apparatus containing fluids -	12,504	5th March 1849	{ Nathan Defries. George Brooks Pettit.
Heating matters - - - - -	12,626	2nd June 1849	Moses Poole.
Heating liquids - - - - -	13,680	3rd July 1851	Charles Payne.
Heating steam - - - - -	13,700	28th July 1851	Richard Lloyd.
Obtaining heat [heating fluids] - - - - -	13,783	22nd Oct. 1851	{ William Boggett. George Holworthy Palmer.
Heating and supplying water for baths and other uses - - - - -	14,091	27th April 1852	{ Alfred Tyler. Henry George Frasi.
Machinery, apparatus, and processes for the preparation of grain and its conversion into liquors, whether malt, saccharine, vinous, alcoholic, or acetous [a water heater for malt-houses].	14,119	8th May 1852	William Littell Tizard.
<b>III.—Heating Liquors for Brewing, Sugar-making, and similar Processes.</b>			
Heating and applying water for brewing and distilling.	1455	17th Nov. 1784	Sutton Thomas Wood.
Heating the water and stuffs for paper-making, in vats and by steam - - - - -	1960	16th Aug. 1793	{ William Scott. George Gregory.
Machinery, also the application of steam, to communicate heat and motion to wines, porter, and other liquids and fluids in cellars and stores.	3522	23rd Jan. 1812	George Dodd.
Heating liquors for manufacturing of leather and for other manufactures.	3692	8th May 1813	Thomas Daking.
Applying heat to liquors used in the processes of brewing, distilling, and sugar refining.	4032	25th May 1816	Phillip Taylor.
Boiling sugar - - - - -	4220	3rd Feb. 1818	Daniel Wilson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
Apparatus for applying steam to the boiling and concentrating of solutions, crystallizing muriate of soda from brines containing that salt, melting and refining tallow and oils, boiling sugar, distilling, and other similar purposes.	4805	19th June 1823	James Smith.
Heating liquors in distilling and brewing, with reduced expenditure of fuel.	4997	5th Aug. 1824	William Johnson.
Mode of applying heat to brine - - - -	5493	4th April 1827	Joseph Tilt.
Boiling muscavado bastard sugar and molasses -	5555	11th Oct. 1827	James Stokes.
Applying heat to the purposes of distillation [ <i>heating a series of stills by means of one fire</i> ].	5583	13th Dec. 1827	Robert Stein.
Applying heat to brine or other matters contained in vessels.	9986	13th Dec. 1843	John Sylvester.
Apparatus for boiling cane juice and other liquids -	10,418	5th Dec. 1844	John Ronald.
Heating [ <i>application of heat for dissolving tallow or concrete oils</i> ].	11,149	25th March 1849	Charles Smith.
Method, apparatus or machine, for evaporating fluids or liquids containing crystalline or other matters to be concentrated or crystallised [ <i>making salt and sugar by the application of electricity</i> ].	11,331	11th Aug. 1846	Henry Constantine Jennings.
Apparatus for heating and evaporating [ <i>heating worts</i> ] - - - - -	14,064	15th April 1852	{ Thomas Ellwood Horton. Elisha Wilde.
<b>IV.—Heating Buildings, Apartments, and other Places.</b>			
Warming rooms - - - - -	512	11th July 1729	Robert Phillips.
Machine for warming rooms equally in every part and without offensive smell, by means of a coal fire.	826	25th April 1765	Abraham Buzaglo.
Conveying the heat arising from the fires of coke ovens, and adapting the same to heating buildings; also applicable to other purposes requiring fire or heat.	1689	23rd June 1789	Right Hon. Henry Seymour Conway.
Communicating heat or warmth to hothouses, green-houses, churches, dwelling-houses, and other buildings.	1616	7th July 1791	John Hoyle.
Warming rooms and buildings with hot air of purer quality than hitherto used.	1968	9th Dec. 1793	Joseph Green.
Ventilating dwelling-houses, theatres, hospitals and other buildings; ventilating, heating, and constructing buildings for preserving trees, plants, shrubs, flowers, roots, and vegetables, thereby reducing the consumption of fuel, simplifying the mode of management, and rendering the production of fruits and flowers more certain.	2549	3rd Nov. 1801	David Stewart.
Warming and heating buildings and stoves by means of heated water, steam, and air.	3280	28th Nov. 1809	William Cornelius English.
Preventing dust, smoke, and the danger of fire, also increasing and regulating the heat, from stoves and chimney fireplaces for heating public buildings and dwelling-houses, without obstructing the view of the burning fuel.	8331	2nd May 1810	William Clerk.
Apparatus for heating closets, laundries, and other rooms.	8790	12th March 1814	John Slater.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
Applying caloric to warm several rooms by one fire	3875	16th Jan. 1815	Jean Frederic Marquis de Chabannes.
Discharging air and condensed steam from pipes used for conveying steam for the purpose of heating buildings.	3899	18th March 1815	Henry Houldsworth.
Method of conducting air and regulating the temperature in houses and other buildings.	3983	5th Dec. 1815	Jean Frederic Marquis de Chabannes.
Heating drying-houses, manufactories, and other buildings.	4007	23rd March 1816	Abraham Rogers.
Heating buildings - - - - -	4147	5th Aug. 1817	George Stratton.
Warming air in houses and other buildings - -	4192	19th Dec. 1817	Jean Frederic Marquis de Chabannes.
Regulating the admission of steam into pipes or other vessels used for heating buildings or other places.	4282	22nd July 1818	Henry Creighton.
Heating dry-houses, malt-kilns, and other buildings } requiring heat - - - - - }	4377	1st June 1819	{ William Geldart. John Servant. Jonathan Howgate.
Heating hothouses and other buildings - - -	4453	9th May 1820	John Hague.
Keeping rooms of a pleasant temperature; apparatus for the purpose.	4564	19th June 1821	John Vallance.
Warming churches, hothouses, and other buildings;—applicable to other purposes.	5680	28th Aug. 1823	George Stratton.
Raising and circulating hot water, hot oils, and other hot fluids for domestic and other purposes [through bent tubes, for warming buildings].	5711	2nd Oct. 1828	Thomas Fowler.
Raising, lowering, or conveying heated water or other fluids to various distances [apparatus for heating buildings or hothouses].	5832	14th Aug. 1829	Edward Weeks.
Apparatus for heating apartments - - - -	6083	21st Feb. 1831	Richard Trevithick.
Apparatus for heating the air in buildings - -	6146	30th July 1831	Angier March Perkins.
Producing the circulation of fluids through pipes, cisterns or other vessels, applicable for warming or cooling the interior of buildings, and for other purposes.	6268	15th May 1832	Charles Augustin Busby.
Apparatus for raising the temperature of air, in order to warm and ventilate buildings.	6273	5th June 1832	John Sylvester.
Apparatus for heating and warming drying-houses, } rooms, buildings, ships, and mines - - - }	6278	22nd June 1832	{ Edward Garsed. Alfred Robinson.
Heating houses and other buildings; applying heat to various purposes.	6283	19th July 1832	William Daubney Holmes.
Machine for producing, by the combustion of gas or oil, heated air for warming the interior of buildings;—applicable at the same time to the purposes of giving light.	6487	19th Oct. 1833	Richard Barnes.
Apparatus for heating churches, conservatories, houses, and other buildings or places.	6544	18th Jan. 1834	William Morgan.
Warming and airing buildings - - - - -	6726	4th Dec. 1834	Franz Auton Bernhardt.
Apparatus for heating churches, warehouses, carriages, and other places requiring artificial heat.	7509	16th Dec. 1837	Thomas Joyce.
Heating buildings - - - - -	7698	22nd June 1838	Thomas Joyce.
Heating hothouses and other buildings - - -	7768	10th Aug. 1838	Thomas Corbett.
Apparatus for heating apartments - - - -	7969	19th Feb. 1839	Richard Prosser.
Apparatus for heating apartments - - - -	8547	17th June 1840	{ Richard Prosser. John James Rippon.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
Apparatus for heating apartments - - - -	9173	9th Dec. 1841	Robert Henderson.
Apparatus for warming buildings - - - -	9259	15th Feb. 1842	George Haden.
Apparatus for heating public and private buildings -	9307	21st March 1842	Robert Hazard.
Arrangements connected with the circulation of steam employed in pipes or tubes for producing heat; application of the same to various purposes.	9508	5th Nov. 1842	Richard Bevan.
Apparatus for warming apartments - - - -	9385	30th March 1843	Paul Revost Brouillet.
Warming the interior of railroad and other carriages	9709	22nd April 1843	{ François Constant. Magliore Violette.
Warming apartments and buildings - - - -	10,183	15th May 1844	William Walker, junior.
Apparatus for heating apartments - - - -	10,264	18th July 1844	Charles Armengaud.
Apparatus for warming carriages and rooms - -	10,325	26th Sept. 1844	Edward Coke Wilmot.
Apparatus for heating the air in buildings - -	10,778	21st July 1845	Angier March Perkins.
Production of heat in general [ <i>warming apartments</i> ].	11,090	11th Feb. 1846	Joseph Pierre Gillard.
Apparatus for heating hothouses and other buildings.	11,102	25th Feb. 1846	James Cantelo.
Heating apartments and buildings - - - -	11,182	23rd April 1846	Anthony Nathan De Rothschild.
Heating apartments - - - - -	11,451	2nd Nov. 1846	Noël Etienne Aimé Paret.
Heating rooms and apartments - - - - -	11,865	9th Sept. 1847	William Brockedon.
Means, processes, and apparatus for preventing the escape of heat through boilers; apparatus for saving and applying the lost heat, and in some cases directing the same [ <i>hot-air apparatus for heating buildings</i> ].	12,062	10th Feb. 1848	Felix Douche.
Heating apartments - - - - -	12,129	20th April 1848	John Britten.
Heating buildings - - - - -	12,504	5th March 1849	{ Nathan Defries. George Brooks Pettit.
Warming or heating buildings - - - - -	12,634	5th June 1849	William Edward Newton.
Warming buildings - - - - -	13,075	22nd May 1850	William Edward Newton.
Warming buildings and structures - - - - -	13,365	25th Nov. 1850	{ John Hamilton. John Weems.
Obtaining and applying heat [ <i>heating apartments, conservatories, &amp;c.</i> ] - - - - -	13,783	22nd Oct. 1851	{ William Boggett. George Holworthy Palmer.
Improvements applicable to indicating and regulating the heat of buildings.	14,068	17th April 1852	William Edward Newton.
Apparatus applicable to heating and other similar purposes [ <i>heating apartments and other places by burning gas or other combustibles in a close vessel or chamber, transparent or otherwise</i> ].	14,254	7th Aug. 1852	Alexander Mills Dix.
<b>V.—Warming Beds.—Apparatus for warming the Feet.</b>			
Warming beds by a warming-pan without fire -	779	6th July 1762	John Wood.
Warming machine, made either of copper, brass, tin, pewter, lead, steel, iron-plate, bell or other metal, and acting without fire, for the purpose of warming the feet of persons riding in carriages.	628	8th June 1769	Abraham Buzaglio.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
Raising warming-pans by stamp and press - -	935	28th Aug. 1769	Richard Ford.
Warming-pan of steel or iron - - - -	1202	24th Nov. 1778	Thomas Howard.
Warming-pan of copper and iron, and other metals, japanned or otherwise.	1292	9th May 1781	William Evers.
Proof earthen cases, with heaters of the same composition, for the purpose of warming beds, dishes, plates, &c.; also useful for persons in carriages or churches, enabling them to keep their feet warm.	1530	7th Feb. 1786	Charles Frederick Hempel.
Plates as substitutes for warming-pans or bed-pans	1584	23rd Jan. 1787	Isaac Whitehouse.
Instrument for warming beds;—applicable to various other purposes.	3068	10th Aug. 1807	Edward Coke Wilmot.
Warming-pans applicable for airing and warming beds, rooms or carriages, and for other purposes requiring a long and protracted heat - - -	3104	28th Jan. 1808	{ Joseph Johnson. John Wilmot.
Warming-pans or apparatus for warming beds, and for other purposes.	6615	24th May 1834	Stephen Hawkins.
Apparatus for warming beds, persons, carriages, and rooms.	10,325	26th Sept. 1844	Edward Coke Wilmot.
Apparatus for warming boots and shoes - -	10,823	4th Sept. 1845	John Vaux.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>forming double-cased warming-pans for warming beds, and which may also be applied for the purpose of roasting potatoes; making portable feet-warmers</i> ].	11,149	25th March 1846	Charles Smith.
Construction and arrangement of apparatus for obtaining decoctions and infusions from certain vegetable and animal matters;—partly applicable to certain chemical processes [ <i>feet-warmers</i> ].	12,642	7th June 1849	Thomas Masters.
<b>VI.—Heating Ovens, Stoves, Furnaces, Boilers, and Coppers.</b>			
Heating vessels used by brewers, dyers, soap-boilers, salt and saltpetre makers, also drying bricks and tiles, with sea-coals - - - -	78	17th Feb. 1635	{ David Ramsey. Michael Arnold. John Ayliffe.
Applying the heat of fire made of pit-coal or turf, to heating at the same time three or more furnaces, coppers, or other vessels for melting metals or metallic ores, drying malt, and for other purposes.	505	21st Nov. 1728	John Payne.
Heating the boilers of steam-engines with a smaller quantity of fuel than now used, and by the fires used in the said boilers calcining ores at the same time.	1758	8th July 1790	Roger Wearn.
Applying fire to the coppers of brewers and distillers; managing the same.	1995	17th June 1794	James Tate.
Applying fire for heating boilers and other vessels;—applicable to other purposes.	2231	1st May 1798	Thomas Rowntree.
Apparatus for applying fire to boilers, ovens, and other caldronic implements; “Carbo-frugalist.”	2290	29th Jan. 1799	James Cooke.
Applying fire in the heating of boilers - - -	2572	16th Jan. 1802	Joseph Lewis.
Heating pans, vats, cisterns and other vessels used for working steam-engines, and in calico-printing, dyeing, brewing, paper-making, bleaching, salt-making, tanning, and for other purposes	2746	31st Dec. 1803	{ Robert Cross. Thomas Southworth.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
Machine for heating ovens - - - - -	3935	24th June 1815	{ Samuel Balden. John Burtenshaw.
Heating stoves, boilers of steam-engines, and other bodies.	4007	23rd March 1816	Abraham Rogers.
Heating malt-kilns - - - - -	4377	1st June 1819	{ William Geldart. John Servant. Jonathan Howgate.
Application of heat to coppers and other utensils -	4533	3rd Feb. 1821	Philip London.
Making steam-engines [ <i>heating boilers by oil or other fatty materials, instead of fire</i> ].	4558	9th May 1821	Aaron Manby.
Production and agency of heat in furnaces, steam and air engines, and in distilling, evaporating, and brewing apparatus.	4615	14th Nov. 1821	Neil Arnott.
Applying heat to furnaces and other apparatus so as to save fuel, consume smoke, and to collect and preserve volatile matters contained in ores or other substances.	4746	8th Jan. 1823	James Neville.
Heating boilers by means of the heat from coke ovens.	4914	28th Feb. 1824	Maurice De Jough.
Apparatus for supplying coal-gas for useful purposes [ <i>heating a boiler by gas evolved from coal whilst coking</i> ].	5663	10th June 1828	Richard Witty.
Application of air to produce heat in fires, forges, and furnaces where bellows or other blowing apparatus are required.	5701	11th Sept. 1828	James Beaumont Neilson.
Quickening the draught for furnaces connected with steam-boilers - - - - -	5923	30th March 1830	{ John Raw. John Boase.
Process for generating heat applicable to heating boilers and retorts, and to other purposes.	6404	30th March 1833	John Obadiah Newell Rutter.
Supplying stoves with heated air, without bellows or blowpipe.	6519	7th Dec. 1833	Ernst Wolff.
Supplying heated air in order to support combustion in enclosed fireplaces.	6546	23rd Jan. 1834	Ernst Wolff.
Heating coppers, stills, and boilers - - -	7299	16th Feb. 1837	John Walker.
Applying air, heated or cold, to blasting or smelting furnaces.	7579	24th Feb. 1838	Michael Wheelwright Ivison.
Regulating the heat of furnaces for smelting iron;—applicable also to retorts for generating gas.	7625	24th April 1838	Samuel Wagstaff Smith.
Economizing heat in furnaces and closed fireplaces -	7656	31st May 1838	Miles Berry.
Supplying air for promoting and supporting the combustion of fire in close stoves and furnaces.	7834	17th Oct. 1838	George Harrison.
Applying heat to certain steam-boilers - - -	8736	16th Dec. 1840	James Davis.
Conveying and distributing heat in ovens used by manufacturers of china and earthenware, and brick, tile, and quarry makers.	9450	18th Aug. 1842	William Ridgway.
Heating ovens and kilns used in the manufacture of china, bricks, tiles, and other articles of earthenware.	10,431	12th Dec. 1844	Robert Heath.
Application of heat to boilers for generating steam;—which improvements may be applied to other purposes where heat is required.	10,672	17th May 1845	Louis Antoine Ritterbandt.
Manufacture of iron [ <i>heating air for blast-furnaces</i> ].	11,067	31st Jan. 1846	George Hinton Bovill.
Production of heat in general [ <i>heating boilers of locomotive-engines</i> ].	11,080	11th Feb. 1846	Joseph Pierre Gillard.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
Propelling carriages on railways [ <i>heating boilers of locomotive-engines</i> ].	11,114	27th Feb. 1846	John Samuel Templeton.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes.	11,149	25th March 1846	Charles Smith.
Apparatus for regulating the dampers of a furnace -	11,711	22nd May 1847	Sydney Smith.
Means, processes, and apparatus for preventing the escape of heat through boilers; apparatus for saving and applying the lost heat, and in some cases directing the same.	12,062	10th Feb. 1848	Felix Douche.
Evaporation [ <i>heating feed-water of boilers</i> ] - -	12,065	14th Feb. 1848	Horatio Black.
Generating, indicating, and applying heat [ <i>heating and ascertaining the heat of boilers, and of ovens for baking bread</i> ] - - - -	12,110	5th April 1848	{ Thomas John Knowlys. William Fillis.
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [ <i>heating sugar-pans</i> ].	12,401	28th Feb. 1849	Henry Crosley.
Making bar or wrought iron [ <i>regulating the heat of puddling-furnaces</i> ].	12,706	8th July 1849	Reuben Plant.
Heating and regulating temperature [ <i>in boilers, by immersing the boiler in vessels of wood, iron, or other materials</i> ].	13,298	24th Oct. 1850	John Grant.
Applying heat to bakers' ovens and their appendages.	13,339	12th Nov. 1850	John Ball.
Heating ovens - - - - -	13,509	11th Feb. 1851	Angier March Perkins.
Means and apparatus for heating ovens - - -	13,842	5th Dec. 1851	{ James Thompson. Frederick Altree.
Apparatus for heating and evaporating [ <i>heating the tubes of hot-air furnaces, stoves, fireplaces, kilns, and ovens</i> ] - - - -	14,064	15th April 1852	{ Thomas Ellwood Horton. Elisha Wilde.
Method of and apparatus for indicating and regulating the heat and the height and supply of water in steam-boilers;—applicable also to indicating and regulating the heat of furnaces, stoves, fireplaces, kilns, and ovens, and indicating the height and regulating the supply of water in other boilers and vessels.	14,038	17th April 1852	William Edward Newton.
Producing gas; and its application to heat and light [ <i>heating locomotive and other steam-boilers</i> ].	14,284	7th Sept. 1852	Peter Armand le Comte de Fontainemoreau.
<b>VII.—Heating Metals and Instruments.</b>			
Apparatus for applying heat to certain instruments of domestic use [ <i>curling-irons and italian irons</i> ].	4736	16th Dec. 1822	John Nicholson.
Apparatus for heating metals - - - -	6146	30th July 1831	Angier March Perkins.
Heating italian irons - - - - -	10,281	30th July 1844	Elizabeth Cottam.
Apparatus for heating metals - - - - -	10,778	21st July 1845	Angier March Perkins.
Manufacture of plates and vessels of metal and other substances suitable for heating; means for heating same.	10,784	25th July 1845	William Henry James.
Heating articles of domestic use - - - -	11,149	25th March 1846	Charles Smith.
Heating articles made of steel, or iron and steel combined.	11,380	24th Sept. 1846	Alfred Vincent Newton.
Obtaining heat [ <i>heating soldering-irons</i> ] - -	13,783	22nd Oct. 1851	{ William Boggett. George Holworthy Palmer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
<b>VIII.—Evaporating and concentrating Fluids and Solutions.</b>			
Applying heat arising from coke ovens to the distillation of volatile alkali, evaporation of saline solutions, exsiccation of crystalline solutions, sublimation of sal-ammoniac, and to other purposes.	1832	18th Oct. 1791	William Stone.
Machinery and operations for saving fuel in the process of evaporating water from solutions of salts and waste lees of soap-makers, and which may also be applicable in other cases where evaporation of water from substances held in solution is required.	1883	21st May 1792	David Frearson.
Accelerating the evaporation of liquid or fluid bodies	3495	30th Oct. 1811	John Miers.
Mode of evaporation and sublimation - - -	3884	13th Feb. 1815	William Moulton.
Facilitating evaporation; rendering the vapour less noxious.	3924	10th June 1815	John Richter.
Evaporating, condensing, and taking the residuum from liquids;—applicable to other purposes.	4192	19th Dec. 1817	Jean Frederic Marquis de Chabannes.
Applying heat in certain processes - - -	4197	15th Jan. 1818	Philip Taylor.
Utensils used for evaporation and condensation -	4279	14th July 1818	John Richter.
Evaporation and exsiccation - - -	4376	24th May 1819	John Thomas Barry.
Evaporation of fluids at comparatively low temperatures. [See "SUGAR."] - - -	4674	9th May 1822	{ Richard Knight. Rupert Kirk.
Apparatus for boiling and concentrating by evaporation, liquids and fluids.	4694	27th July 1822	Sir Anthony Perrier.
Apparatus for evaporating fluids - - -	4696	17th Aug. 1822	William Cleland.
Ships' cabooses or hearths [and apparatus to be connected therewith for evaporating and condensing water] - - -	4706	27th Sept. 1822	{ John Dowell Moxon. James Fraser.
Heating, boiling, or evaporating by steam, fluids in pans, boilers, or other vessels.	4792	17th May 1823	Jacob Perkins.
Apparatus for boiling and concentrating solutions in general.	4805	19th June 1823	James Smith.
Evaporating fluids for heating horticultural and other buildings; also heating liquids in distilling, brewing, dyeing, and in making sugar and salt, with reduced expenditure of fuel.	4997	5th Aug. 1824	William Johnson.
Apparatus for the concentration and crystallization of aluminous and other crystallizable solutions;—partly applicable to general purposes of evaporation, distillation, inspissation, desiccation, and generation of steam.	5327	7th Feb. 1826	Josias Christopher Gamble.
Improvements applicable to the evaporation of fluids.	5381	4th July 1826	John Poole.
Evaporation - - -	5394	24th July 1826	William Cleland.
Evaporating sugar - - -	5520	4th July 1827	William Cleland.
Boiling or evaporating solutions of sugar and other liquors.	5635	29th March 1828	John Davis.
Evaporating sugar - - -	5718	27th Nov. 1828	William Godfrey Kneller.
Evaporation - - -	5837	21st Aug. 1829	William Shand.
Concentrating and evaporating cane juice, solutions of sugar, and other fluids [rotary fan].	5848	15th Sept. 1829	John Aitchison.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
Introducing air into fluids for the purpose of evaporation - - - - -	6012	20th Oct. 1830	{ Joseph Budworth Sharp. William Fawcett.
Evaporating fluids applicable to various purposes - -	6032	6th Nov. 1830	Joseph Gibba.
Apparatus partly applicable to evaporation - - -	6041	29th Nov. 1830	William Church.
Evaporating brine - - - - -	6086	21st Feb. 1831	William Furnival.
Apparatus for heating and evaporating fluids - -	6146	30th July 1831	Angier March Perkins.
Evaporating and boiling fluids - - - - -	6154	27th Aug. 1831	Jacob Perkins.
Apparatus for evaporating syrups and saccharine juices.	6165	22nd Sept. 1831	Andrew Ure.
Apparatus for evaporating syrups and saccharine juices.	6439	20th June 1833	Andrew Ure.
Apparatus for boiling, evaporating, and concentrating syrups for the production of sugar, also of saline liquors, or for the crystallization of salt; which apparatus may also be employed in the process of distillation.	6440	20th June 1833	William Newton.
Evaporation - - - - -	6467	24th Aug. 1833	William Godfrey Kneller.
Arrangement and combination of apparatus, with certain agents used therewith, for the evaporation of fluids and solutions, and for other purposes.	6590	8th April 1834	Henry Crosley.
Heating and evaporating fluids - - - - -	6982	19th Jan. 1836	Charles Brandt.
Improvements which are more or less applicable to the heating of fluids of all descriptions.	6985	21st Jan. 1836	Robert Bowie.
Evaporating and boiling fluids for certain purposes -	7059	12th April 1836	Jacob Perkins.
Apparatus for evaporating water from saline solutions.	7105	2nd June 1836	William Gossage.
Apparatus applicable to the evaporation and concentration of saccharine juices and other liquids.	7115	13th June 1836	Miles Berry.
Evaporating fluids - - - - -	7157	27th July 1836	Charles Brandt.
Boiling and evaporating or concentrating - - -	7276	11th Jan. 1837	George Goodlet.
Heating and evaporating fluids - - - - -	7361	6th May 1837	Thomas Baylis.
Heating and evaporating fluids - - - - -	7371	11th May 1837	William Bell.
Improvements applicable to heating or evaporating fluids.	7428	31st Aug. 1837	James Neville.
Concentrating certain vegetable juices and saccharine solutions.	7587	8th March 1838	Norton William Lawrence
Applying prepared fuel to the purpose of evaporating fluids.	7634	5th May 1838	Thomas Joyce.
Evaporation - - - - -	7697	22nd June 1838	Eliezer Chater Wilson.
Heating or evaporating fluids or gases - - - -	7754	30th July 1838	Samuel Hall.
Applying steam to the evaporation and boiling of fluids.	7890	1st Dec. 1838	John McCurdy.
Evaporating sea-water and other fluids - - - -	8007	20th March 1839	Edward Law.
Concentrating the colour, tannin, and other matter contained in vegetable and animal substances - }	8419	7th March 1840	{ William Maltby. Richard Cuerton.
Means employed in generating steam and elastic vapours or fluids; using these improvements in conjunction with evaporation, and other useful purposes.	8474	15th April 1840	Thomas Robinson Williams.
Heating and evaporating fluids - - - - -	8550	24th June 1840	{ John Aitchison. Archibald Hastie.
Evaporating water and other fluids - - - - -	8559	2nd July 1840	John David Poole.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;C.—continued.</b>			
Evaporation - - - - -	8879	5th Nov. 1840	Henry Hina Edwards.
Apparatus for concentrating and evaporating æri-form and other fluids.	8759	30th Dec. 1840	Henry Adcock.
Evaporating fluids for salt-making and for other purposes where evaporation of fluids is required.	8815	26th Jan. 1841	John Bradford Furnival.
Evaporating fluids - - - - -	9122	20th Oct. 1841	Junius Smith.
Evaporating fluids applicable to the manufacture of salt, and to other purposes where evaporation of fluids is required.	9123	20th Oct. 1841	John Bradford Furnival.
Evaporation of brine - - - - -	9569	22nd Dec. 1842	William Godfrey Kneller.
Application of pyro-hydro-pneumatic apparatus to heating, evaporating, and other purposes.	9623	31st Jan. 1843	Charles Clark.
Evaporating fluids - - - - -	9664	16th March 1843	Angier March Perkins.
Apparatus for drying and evaporating - - -	10,053	14th Feb. 1844	Andrew Kurtz.
Apparatus for applying heat to effect the evaporation of certain solutions [ <i>brine</i> ].	10,469	16th Jan. 1845	William Hunt.
Evaporating liquids - - - - -	10,642	29th April 1845	Frederick Lesnard.
Apparatus for heating and evaporating fluids -	10,778	21st July 1845	Angier March Perkins.
Applying heat for evaporating;—apparatus connected therewith.	11,111	25th Feb. 1846	John Britten.
Method, apparatus, or machine for evaporating fluids or liquids containing crystalline or other matters to be concentrated or crystallized.	11,331	11th Aug. 1846	Henry Constantine Jennings.
Apparatus for evaporating and concentrating saccharine and saline solutions;—also applicable to the evaporation and concentration of vegetable and other extracts.	11,881	30th Sept. 1847	Charles Jay.
Evaporation - - - - -	12,065	14th Feb. 1848	Horatio Black.
Evaporating fluids - - - - -	12,285	12th Oct. 1848	John Wright.
Construction of coke ovens, and machinery or apparatus to be connected therewith [ <i>applying the heat given off during the carbonization of the coal, to the evaporation of saline solutions</i> ].	12,329	16th Nov. 1848	William Wilkinson.
Improvements, parts of which are applicable to evaporation generally.	12,335	21st Nov. 1848	William Hood Clement.
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [ <i>employing air in a warm or cold state for the evaporation of sugar</i> ].	12,491	28th Feb. 1849	Henry Crosley.
Heating apparatus, and applying hot and warm air to manufacturing and other purposes, where the same are required [ <i>apparatus for evaporating lees</i> ].	12,517	14th March 1849	Alexander Swan.
Evaporating brine and certain other fluids - -	12,530	20th March 1849	Charles William Harrison Pickering.
Evaporating liquids - - - - -	12,531	20th March 1849	Charles William Siemens.
Construction and arrangement of apparatus for heating and evaporating fluids.	12,642	7th June 1849	Thomas Masters.
Improvements applicable to the evaporation of liquids and to the concentration and crystallization of syrups and saline solutions.	12,730	1st Aug. 1849	James Murdoch.
Machine, apparatus, and processes for extracting, depurating, forming, drying, and evaporating substances.	12,742	16th Aug. 1849	Richard Archibald Brooman.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HEAT, HEATING, &amp;c.—continued.</b>			
Heating and evaporating fluids - - - -	12,787	27th Sept. 1849	William Boggett.
Apparatus for evaporating saccharine and other liquors.	12,930	17th Jan. 1850	Henry Cowing.
Heating and evaporating fluids - - - -	13,388	7th Dec. 1850	Archibald Turner.
Evaporation - - - - -	13,502	24th March 1851	Matthew Herring.
Apparatus for evaporating saccharine fluids - -	13,709	5th Aug. 1851	Edward De Mornay.
Machinery for evaporating fluids - - - -	13,779	17th Oct. 1851	Richard Roberts.
Steam apparatus used in the manufacture of iron;— partly applicable to evaporative and motive purposes generally.	13,883	27th Dec. 1851	Joseph Stenson.
Heating air, and evaporating certain fluids by } heated air [ <i>sugar evaporating pans</i> ] - - - - }	14,030	22nd March 1852	{ William Symington. Charles Finlayson. John Reid.
Apparatus for heating and evaporating - - -	14,064	15th April 1852	{ Thomas Ellwood Horton Elisha Wilde.
Vacuum pans for evaporation of saccharine or other solutions.	14,141	25th May 1852	Joseph Walker.
Improvements partly applicable to evaporating saccharine and other fluids.	14,239	24th July 1852	Henry Bessemer.
<b>IX.—Evaporating and concentrating Acids.</b>			
Vessel for evaporation and concentration of acids } and other substances - - - - - }	4587	8th Sept. 1821	{ Berrington Gibbons. Charles Hummings Wilkinson.
Concentration and manufacture of sulphuric acid -	9569	22nd Dec. 1842	William Godfrey Kneller.
Apparatus for concentration of sulphuric acid -	10,972	27th Nov. 1845	Eden Thomas Jones.
Apparatus for evaporating or concentrating sulphuric acid.	11,052	20th Jan. 1846	Andrew Kurtz.
Concentration of sulphuric acid and other fluids -	13,424	20th Dec. 1850	William Herbert Gossage.
Concentrating sulphuric acid - - - - -	13,714	7th Aug. 1851	{ Alphonse Rene le Mire de Normandy. Richard Fell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HINGES, JOINTS, AND PULLEYS.</b>			
Casting hinges ready jointed, or with false knuckles } or joints and pins, in cast-iron - - - - }	1102	3rd Oct. 1775	{ John Izon. Thomas Whitehurst.
Sympathetic hinges and quadrants to be used with folding-doors, gates, and shutters.	1510	17th Nov. 1785	John Stedman.
Sliding-hinges, applicable to the construction of tables, sashes, shutters, and may be adapted to other purposes - - - - }	2007	13th Aug. 1794	{ Richard Sweetman. Joseph Higgs.
Joints, and applying the same to teapots, coffee- pots, coffee-biggins, tea-urns, and other articles.	2318	17th June 1799	William King.
Metallic hinge for use in bookbinding - - -	2412	13th June 1800	Ebenezer Palmer.
Hinges - - - - -	2804	3rd April 1802	Stephen Wells.
Hinges and pulleys for doors and windows - -	3451	21st May 1811	James Parsons.
Means of connecting or joining steam or water pipes together [ <i>by a joint or screw</i> ].	3793	23rd March 1814	William Alfred Noble.
Spring hinge for doors and gates - - - -	3822	16th July 1814	Joseph Smith.
Construction of hinges for doors - - - -	4807	9th Nov. 1821	David Redmund.
Hinges - - - - -	4817	22nd Nov. 1821	John Collinge.
Manufacture of metallic rack-pulleys - - -	4876	9th Dec. 1823	Thomas Horne.
Hinges, which may be made of iron, steel, brass, or other metals, for doors, cupboards, and sashes of houses; also for book-cases and show-cases;— applicable to all purposes where hinges are used }	5129	17th March 1825	{ Richard Whitechurch. John Whitechurch.
Making hinges - - - - -	5322	19th Jan. 1826	Benjamin Cook.
Construction and manufacture of hinges - -	5443	22nd Dec. 1826	David Redmund.
Manufacturing hinges - - - - -	6887	24th July 1835	Thomas Horne.
Manufacturing of metal hinges for doors and for other purposes.	7109	7th June 1836	John Young.
Apparatus or machinery for making metal hinges -	7185	15th Sept. 1836	Joshua Bates.
Hinges - - - - -	7508	13th Dec. 1837	Thomas Vale.
Manufacture of hinges or joints; machinery em- ployed therein.	7840	25th Oct. 1838	John Henfrey.
Manufacture of hinges - - - - -	8019	3rd April 1839	Thomas Edwards.
Manufacture of hinges - - - - -	8161	20th July 1839	David Johnston.
Manufacture of hinges - - - - -	8352	21st Jan. 1840	Samuel Wilkes.
Manufacture of hinges - - - - -	8615	3rd Sept. 1840	Thomas Horne.
Construction of spring hinges - - - -	8820	7th Sept. 1840	John Whitehouse, junior.
Construction and manufacture of hinges for hanging and closing doors.	9039	4th Aug. 1841	Joseph Ratcliff.
Construction of hinges - - - - -	9285	7th March 1842	Robert Frampton.
Hinges for pianofortes and for other purposes -	9362	24th May 1842	James Stewart.
Hinges or apparatus applicable to suspending or closing doors and gates, and to other purposes.	9454	25th Aug. 1842	David Redmund.
Manufacture of hinges - - - - -	9866	16th March 1843	Frederick Cook Matchett.
Spring hinges - - - - -	10,456	11th Jan. 1845	John Gollop.
Manufacture of hinges - - - - -	10,838	26th April 1845	Samuel Wilkes.
Manufacture of hinges - - - - -	10,945	17th Nov. 1845	James Boydell.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>forming door hinges</i> ].	11,149	25th March 1846	Charles Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HINGES, JOINTS, &amp;c.—continued.</b>			
Regulating motion in the joints and other parts of furniture, machinery, and carriages.	11,706	22nd May 1847	Charles Chinnock.
Coupling-joints for pipes, nozzles, stopcocks, still and cylinder heads, and other apparatus.	12,100	22nd March 1848	William Edward Newton.
Manufacture of hinges; machinery used therein -	12,304	2nd Nov. 1848	Richard Archibald Brooman.
Manufacture of swivels, of bag fastenings, of revolving furniture, and of the connections of pipes for gases and other fluids [ <i>screw-joints</i> ].	12,392	28th Dec. 1848	Moses Poole.
Manufacture of hinges; apparatus for dressing and finishing articles made of metal.	12,725	1st Aug. 1849	David Harcourt.
Making joints of tubes and pipes or other vessels -	12,875	3rd Dec. 1849	George Buchanan.
Hinges for railway carriage and other doors - -	12,878	5th Dec. 1849	Samuel Fisher.
Coupling-joints for pipes - - - - -	13,024	26th March 1850	Alfred Vincent Newton.
Safety hinge and apparatus for the detection of burglars and prevention of burglaries - - }	13,575	24th March 1851	{ Henry Stephen Ridley. James Edser.
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<b>HOISTING-MACHINES AND MECHANICAL PURCHASES.</b>			
<b>I.—Raising and lowering heavy weights.</b>			
Engine for raising weights - - - - -	67	14th Jan. 1634	Hannyball Vivyan.
Raising weights - - - - -	127	24th June 1642	{ Joseph Crutchley. William Wheeler.
Engine consisting of screws, wheels, and wrenches, for drawing and raising great weights.	306	2nd Dec. 1692	Joseph Williams.
Engine consisting of screw-wheels and long tumblers, for raising or lowering heavy weights }	311	17th Jan. 1693	{ George Nation. John Dewee. Thomas Puckle.
Engine for craning and lifting goods and other things of weight, by an artificial flux and reflux of water.	324	19th Sept. 1693	Cornelius Losvelt.
Making a small-sized engine for weighing and raising up any weight far beyond what can be performed by any crane or capstan - - - }	392	17th June 1712	{ Nicholas Lewis Mandell. John Grey.
Raising ponderous weights by fire or water - -	885	26th Nov. 1766	John Barber.
Machine for raising weights - - - - -	934	4th Aug. 1769	James Taylor.
Machine for raising weights from a lower to a higher level without aid of fire or wind.	1788	14th Jan. 1791	Joseph Brooks.
Machine for raising or lowering weights - -	1892	19th June 1792	Robert Weldon.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HOISTING-MACHINES, &amp;c.—continued.</b>			
Machine for raising heavy goods . . . . .	1913	26th Oct. 1792	Samuel Miller.
Machine for moving heavy articles, by raising or lowering them perpendicularly, or (by the addition of a moveable catch-frame) by removing them in an horizontal, oblique, or curvilinear direction, or on inclined planes, or by changing the direction of the motion of the said articles, the weight of the rope or chain, whether long or short, acting equally upon the power working the machine;—useful for other purposes.	2018	23rd Oct. 1794	David Mollard.
Centrifugal barrel-engine of central force, for raising weights.	3301	8th March 1799	Michael Logan.
Raising heavy weights, and machinery for the purpose.	3372	4th Feb. 1800	Samuel Miller.
Machine for raising, lowering, and moving heavy bodies.	2389	23rd April 1800	William Pocock.
Machine for raising weights, and for other purposes	2808	7th April 1802	James Power.
Engine for raising and lowering weights and for working mills . . . . .	2810	13th April 1802	{ John Harriott. Thomas Strode.
Construction of machines for moving, raising, or lowering heavy bodies and weights of all kinds.	2910	20th Feb. 1806	Thomas Kentish.
Raising heavy bodies by steam . . . . .	2937	6th June 1806	Ralph Dodd.
Engine for raising immense weights . . . . .	3010	12th Feb. 1807	John Day.
Machinery for raising, lowering, drawing, driving, forcing, impressing, or moving bodies, substances, materials, fluids, articles, or commodities.	3218	20th March 1809	Simeon Thompson.
Machine for raising weights . . . . .	3230	25th April 1809	John Barton.
Moving goods or materials to high buildings or from deep places.	3318	12th March 1810	John Kent.
Constructing and working machines for lifting or raising weights;—applicable to other purposes.	3681	13th April 1813	John Rangeley.
Constructing and working machines for lifting or raising weights;—applicable to all purposes where mechanical power is required "Hydro-pneumatic engine."	4021	4th May 1816	John Rangeley.
Application of a power for raising weights, and to other purposes [ <i>the pressure of the wind against kites, to elevate signals</i> ] . . . . .	5420	18th Oct. 1826	{ James Viney. George Pocock.
Machinery applicable to the raising or lowering of weights on land.	5536	13th Aug. 1827	John Underhill.
Raising or lowering weights, carriages, or goods on railroads.	5646	1st May 1828	Jonathan Brownhill.
Lifting weights [ <i>by converting a reciprocatory into a rotary action</i> ].	5671	10th July 1828	Thomas Revis.
Transporting or moving ships, vessels, and other bodies on land from one place to another.	6045	6th Dec. 1830	Samuel Brown.
Improvements applicable to raising solid and other bodies.	6585	29th March 1834	John Cooper Douglas.
Transporting carriages from one level to another on railways.	6766	16th Feb. 1835	Joseph Price.
Raising weights or substances from below water to the surface of the same.	6805	15th Oct. 1835	John William Fraser.
Hooks and bow for corves and other vessels used in raising and lowering loads in buildings, dock-yards, vessels, and other works.	6993	1st Feb. 1836	Stephen Reed.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HOISTING-MACHINES, &amp;c.—continued.</b>			
Engine for exerting power for raising and lowering heavy bodies.	7002	12th Feb. 1836	Andrew Smith.
Machinery for raising, lowering, and moving ponderous bodies and matters.	7400	10th July 1837	William Pringle Green.
Apparatus for raising heavy loads in carts or other receptacles, when it is required that the unloading should take place at any considerable elevation above the ground.	8629	10th Sept. 1840	Robert Goodacre.
Machinery used for raising and lowering weights -	8767	31st Dec. 1840	John Grylls.
Raising and lowering weights - - - -	8833	8th Feb. 1841	Thomas Griffiths.
Improvements applicable to raising and lowering weights.	8840	8th Feb. 1841	Joseph Scott.
Machinery applicable to raising and lowering weights	8967	22nd May 1841	John Winterborn.
Machinery for raising, lowering, and moving bodies or weights - - - - -	9007	26th June 1841	{ Willoughby Methley. { Thomas Charles Methley.
Machinery for raising and lowering weights and materials.	9174	9th Dec. 1841	Henry Wilkinson.
Machinery for raising weights - - - -	9176	11th Dec. 1841	William George Henry Taunton.
Machinery and apparatus applicable to raising, lowering, and transporting heavy bodies.	9414	9th July 1842	John Peter Booth.
Machinery for moving weights - - - -	9444	11th Aug. 1842	Joseph Betteley.
Apparatus connected with steam-engines for raising bodies.	9702	20th April 1843	John George Bodmer.
Machinery for raising heavy bodies and exerting power for other purposes.	10,010	13th Jan. 1844	Anthony Movillon De Glines.
Raising and moving heavy bodies;—partly applicable, amongst other uses, to mines, vessels, and public works.	10,512	8th Feb. 1845	Darius Isaac Green.
Collecting and raising stone or other substances from below water - - - - -	10,585	2nd April 1845	{ William Robinson Mulley. { George Mason.
Apparatus for moving railway carriages on to railways; machinery for lifting and moving heavy bodies.	11,144	25th March 1846	Thomas Pope.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>beam with angle-formed plates affixed to its under surface; useful for removing goods</i> ].	11,149	25th March 1846	Charles Smith.
Apparatus and mode of applying power for raising and lowering weights or heavy bodies.	11,259	22nd June 1846	William Toppling Nesham.
Lifting, lowering, and hauling apparatus - -	11,319	31st July 1846	William George Armstrong.
Moving or raising weights - - - - -	11,406	8th Oct. 1846	William Price Struve.
Machinery for raising or lifting and lowering weights or ponderous bodies.	11,465	1st Dec. 1846	William Johnson.
Apparatus and machinery for raising, lifting, and otherwise moving heavy bodies.	11,509	23rd Dec. 1846	Pierre Frederic Gougny.
Apparatus used for raising and lowering weights from mines and other places.	11,557	1st Feb. 1847	Edward Newman Fourdrinier.
Machinery for raising and lowering weights - -	11,666	20th April 1847	Thomas Brown.
Apparatus for raising and lowering heavy bodies in mines.	12,002	22nd Dec. 1847	Pierre Augustin Puis.
Machinery for hoisting weights - - - -	12,207	11th July 1848	Richard Roberts.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HOISTING-MACHINES, &amp;c.—continued.</b>			
Apparatus and machinery for lifting and moving heavy bodies.	12,443	27th Jan. 1849	Pierre Frederic Gougy.
Machinery, apparatus or means of raising, lowering, supporting, moving, or transporting heavy bodies.	12,631	5th June 1849	George Simpson.
Application of steam for raising, lowering, moving, or transporting heavy bodies.	12,676	26th June 1849	Walter Neilson.
Machinery for moving and raising weights - -	12,683	4th July 1849	John Robinson.
Machinery for raising and lowering weights and persons in mines.	12,746	23rd Aug. 1849	Charles Cowper.
Machinery, apparatus or means of raising, lowering, supporting, moving, or transporting heavy bodies.	12,936	19th Jan. 1850	George Simpson.
Apparatus for raising weights - - - -	13,052	20th April 1850	John Timothy Chapman.
Machinery for raising and conveying weights - -	13,105	6th June 1850	John M'Nicol.
Machinery for lifting and moving weights, working chains, and pumping; more especially adapted for ships' use.	13,135	19th June 1850	Charles Lamport.
Machinery for raising, lowering, and moving heavy bodies.	13,153	26th June 1850	Thomas Fulljames.
Improvements applicable generally to raising, lowering, and transporting heavy bodies.	13,244	5th Sept. 1850	William Watt.
Machinery for raising and lowering heavy bodies -	13,355	19th Nov. 1850	Thomas Dunn.
Apparatus for lifting - - - - -	13,409	12th Dec. 1850	Samuel Baxter.
Application of mechanical powers for lifting, removing; and preserving trees, houses, and other bodies.	14,100	29th April 1852	Stewart M'Glashen.
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<b>II.—Cranes, Levers, and other lifting Powers.</b>			
Crane for landing and shipping goods - - -	805	8th March 1764	John Webb.
Making iron screws for raising and lifting up timber, and for other purposes.	829	12th June 1765	George Pickering.
Multiplying levers to extend motion and to reduce vibration, thereby gaining power.	930	19th June 1769	Francis Moore.
Spiral wedge for elevating cannon - - - -	1233	7th Sept. 1779	Christopher Berger.
Crane - - - - -	1577	19th Dec. 1786	Valentine Gottlieb.
Mechanical motion applied to clocks and time-pieces, jacks for roasting, and cranes for raising weights; also to other purposes.	1650	20th May 1788	James White.
Mechanical crane for lifting and shifting heavy weights.	1756	8th July 1790	William Morecroft.
Cranes for raising and lowering goods into and out of warehouses.	2300	8th March 1799	David Hardie.
Mechanical power for lifting weights, moving ships, weighing anchors, &c.	2346	3rd Oct. 1799	John Hotchkis.
Universal lever or machine for accelerating motion with little friction.	2659	13th Nov. 1802	Simon Huguenin.
Mechanical power for raising great weights, preventing ships from sinking, raising ships when sunk, rendering ships capable of entering rivers, passing bars or shoals, or otherwise moving in shallow water, and for other purposes.	2676	29th Jan. 1803	George Matcham.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HOISTING-MACHINES, &amp;c.—continued.</b>			
Derrick for loading and unloading ships and vessels, and for removing heavy bodies;—applicable to other use ul purposes.	2725	29th July 1803	Thomas Kentish.
Extending or increasing the power of cranes by the application of friction-boxes.	3022	20th March 1807	John Day.
Method, directed by machinery, of using the screw, by which its mechanical power or its motion is increased.	3211	1st March 1809	Edward Steers.
Cranes for avoiding accidents arising in the raising or lowering of heavy bodies.	3570	26th May 1812	William Hardcastle.
Machines whereby the strength of men may be used as a crane, or to give rotary motion to any machine, engine, or mill-work.	3636	15th Jan. 1813	John Shorter Morris.
Machine for acquiring high mechanical power in a small compass with little friction, and without the possibility of running amain when employed in raising or lowering heavy weights.	4213	27th Jan. 1818	William Horner.
Construction of cranes - - - - -	5544	21st Aug. 1827	Lemuel Wellman Wright.
Lever, and application of its power - - - - -	5821	25th July 1829	John Nicholls.
Cranes, vessels and apparatus, for delivering coals from shipping, to wharfs, warehouses, waggons, or carts, without employing lighters;—applicable to other purposes.	6435	6th June 1833	James Caldwell.
Nipping lever, for causing the rotation of wheels, shafts, or cylinders.	7312	28th Feb. 1837	John Robinson.
Combination of machinery to be applied as mechanical agents in a great variety of situations, in which toothed gear and other mechanism have been heretofore employed [ <i>arrangement of levers for raising weights</i> ].	7394	17th June 1837	James Buckingham.
Construction and arrangement of cranes for lifting and removing goods - - - - -	7405	19th July 1837	{ John Hartley Hitchin. Robert Oram.
Application of levers for the purpose of multiplying power.	7419	22nd Aug. 1837	John George Hartley.
Screw-jack for raising or moving heavy bodies vertically and laterally.	8058	7th May 1839	George England.
Cranes - - - - -	8469	15th April 1840	James Caldwell.
Lifting-jack for raising or removing heavy bodies -	8768	31st Dec. 1840	Joseph Haley.
Cranes or other elevating machines, whereby the weight of goods may be ascertained while in a state of suspension.	9605	26th Jan. 1843	Robert Goodacre.
"Dynamometric" crane - - - - -	9927	4th Nov. 1843	Pierre Armand le Comte de Fontainemoreau.
Construction of timber and other jacks and floor-cramps.	10,670	17th May 1845	Thomas Wells.
Cranes - - - - -	10,713	10th June 1845	David Henderson.
Archimedian screw, called "Davaine's screw" -	10,800	4th Aug. 1845	Charles Henry Joseph Forrett.
Apparatus to be attached to and employed in connection with railway carriages [ <i>jacks for lifting heavy bodies</i> ].	10,892	23rd Oct. 1845	Thomas Worsdell, junior.
Wrenchers or spanners - - - - -	10,987	10th Dec. 1845	Thomas Williams.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HOISTING-MACHINES, &amp;c.—continued.</b>			
Obtaining and applying motive-power [ <i>cranes</i> ] -	11,077	11th Feb. 1846	{ Thomas Clarke. Mark Freeman. John Varley.
Lifting, lowering, and hauling apparatus [ <i>cranes</i> ] -	11,319	31st July 1846	William George Armstrong.
Cranes and other hoisting and lowering machinery -	11,560	1st Feb. 1847	Benjamin Dawson Norton.
Mechanical purchases applicable in whole or in part to projectiles.	12,623	29th May 1849	Richard Edward Hodges.
Derricks for raising heavy bodies - - - -	12,734	9th Aug. 1849	Alfred Vincent Newton.
Cranes and other lifting and hoisting machines -	13,317	7th Nov. 1850	William Fairbairn.
Cranes capable of being used on railways - -	13,637	19th May 1851	Perceval Moses Parsons.
Construction of machinery applicable to cranes and other similar apparatus [ <i>weighing-cranes</i> ].	14,253	7th Aug. 1852	Roger Hind.
Self-acting hydraulic crane or engine for lifting weights (such weights, when lifted, to be used as motive-power), as also for loading and unloading vessels and vehicles.	14,340	2nd Nov. 1852	John Crowther.
<b>III.—Working Cranes.</b>			
Machine for working cranes used in landing goods } from ships and other craft - - - - - }	873	26th March 1767	{ Alexander Clunie. Peter Thonvois.
Applying a certain power to the working of ships' and other windlasses, ship and other winches, cranes and other purposes.	2695	5th April 1803	Richard Francis Hawkins.
Applying manual powers to the crane, pile-driver, and other machinery.	3625	19th Dec. 1812	Thomas Rogers.
Movements and combinations of wheels for working cranes, mills, and machinery, portable or fixed.	3859	10th Dec. 1814	Robert Salmon.
Working cranes or tilt hammers - - - - -	5546	30th Aug. 1827	John Hague.
Obtaining mechanical power [ <i>for working cranes</i> ] -	8991	19th July 1841	William Petrie.
[See also "MOTIVE-POWER."]			

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HORTICULTURE.</b>			
<b>I.—Rearing and cultivating Plants and Trees.</b>			
Planting and producing hops, and planting trees on dry and barren grounds.	105	17th May 1637	Robert Chiver.
Raising and cultivating in the American plantations the plants which produce balsam of tolu, pero and capair, dragon's blood, colocynthida, scammony, rhubarb, contraherba, coffee, alkermes, jalap, gutta-gamba, jesuit's balsam, ipecacuhana, and agaric; breeding and curing cochineal, and cultivating plants upon which such insects feed.	444	16th May 1722	George Sinclair.
Grafting or budding the English elm upon the stock of the Dutch elm.	464	16th March 1724	Thomas Greening.
Planting and manufacturing machoacan; also the prickly pear or cochineal plant.	568	8th June 1739	John Harrington.
Machine to gather fruit from trees, and for raising or hoisting persons to cut or prune the same, without the help of ladders or scaffolds.	1364	3rd May 1783	Edward Whatmore.
Rearing, cultivating, training, and bringing to perfection, all kinds of fruit trees, shrubs, and plants; protecting their leaves, blossoms, flowers, and fruit.	1513	5th Dec. 1785	Philip Le Brocq.
Cultivation of plants - - - - -	3095	13th Jan. 1808	Willis Earle.
Manufacture of soughing and grafting tools, and other like implements.	8420	7th March 1840	Luke Hebert.
Apparatus for watering, manuring, and drying trees, plants, seeds, and roots, and accelerating and improving their growth.	10,844	2nd Oct. 1845	John Malam.
Apparatus or instruments for the fumigation of plants.	12,764	13th Sept. 1849	David Stephen Brown.
<b>II.—Horticultural Buildings, Frames, and Stands.</b>			
Construction of hothouses - - - - -	2474	10th Feb. 1801	James Anderson.
Ventilating, heating, and constructing every kind of building for forwarding or preserving trees, plants, shrubs, flowers, fruits, roots and vegetables, on an improved principle, thereby reducing the consumption of fuel, simplifying the mode of management, and rendering more certain the production of fruit and flowers.	2549	3rd Nov. 1801	David Stewart.
Forcing-frame, for raising and forcing cucumbers and various fruits and plants requiring artificial heat.	3120	17th March 1808	Edward Weeks.
Rendering horticultural and other buildings air and water tight, so far as relates to the glazing, by means of a metallic lap.	3417	22nd March 1811	David Stewart.
Glazing hothouses, greenhouses, and all horticultural buildings.	3478	20th Aug. 1811	John Stubbs Jorden.
Making and erecting hothouses, horticultural buildings, pine-pits, and cucumber lights.	3678	7th April 1813	James Timmins.
Erecting espalier frames - - - - -	3811	26th May 1814	William Neville.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>HORTICULTURE—continued.</b>			
Method of making the lights, also other improvements in the construction of horticultural buildings.	3814	7th June 1814	John Stubbs Jorden.
Transmitting heat wall for the ripening of fruit -	5600	9th Jan. 1828	James Andrew Hunt Grubbe.
Improvements in and additions to syringes applicable to garden and other purposes.	5869	10th Nov. 1829	Daniel Macdougall.
Glazing horticultural and other buildings, sash-bars and rafters - - - - - }	6007	6th Oct. 1830	{ Joseph Harrison. Richard Gill Curtis.
Ornamental dessert, flower, and other stands - -	6904	9th Oct. 1835	Robert Jupe.
Construction and arrangement of apparatus for supporting garden-pots and improving the growth of plants.	11,337	17th Aug. 1846	George Phillips.
Making hop-poles, hurdles, fencing-ropes, basket or wicker work, and other similar articles.	11,837	19th Aug. 1847	Osborne Reynolds.
Application of plain or ornamental glass, alone or in combination, to new purposes of construction or manufacture [ <i>striking or propagating glasses</i> ].	13,458	16th Jan. 1851	Robert Cogan.
Method of construction applicable to horticultural purposes.	13,814	15th Nov. 1851	Charles Ewing.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>I.</b>			
<b>INDIA-RUBBER AND GUTTA-PERCHA.</b>			
<b>I.—Treating, cutting, dissolving, combining, also Compositions and Cements.</b>			
Liquid and composition for making leather water-proof [ <i>caoutchouc dissolved in spirits with bees-wax and gummy matters</i> ].	4915	28th Feb. 1824	Charles Bagenall Fleetwood.
Liquid or composition for waterproofing and strengthening leather [ <i>solution of resin, tallow, oil, turpentine, and caoutchouc</i> ].	5662	4th June 1828	Baron Charles Wetterstedt.
Machine to reduce caoutchouc or india-rubber into thread of different calibre.	6342	7th Dec. 1832	Julian Frederic Maitland Dumeste.
Cutting caoutchouc - - - - -	6696	9th Feb. 1836	{ Alexander Massie. Robert Morton. William Ranwell. Ebenezer Ranwell.
Cutting caoutchouc and india-rubber, and similar substances, to render them applicable to various purposes.	7004	16th Feb. 1836	Joshua Proctor Westhead.
Dissolving and preparing caoutchouc or india-rubber for various purposes.	7015	27th Feb. 1836	Robert William Sievier.
Dissolving and preparing caoutchouc or india-rubber to render it applicable to various purposes.	7018	27th Feb. 1836	James Martin.
Preparing or manufacturing caoutchouc or india-rubber for various useful purposes.	7020	8th March 1836	John Galley Hartley.
Preparing and manufacturing caoutchouc, applicable to various purposes.	7213	24th Oct. 1836	Christopher Nickels.
Manufacturing or preparing caoutchouc, alone or in combination with other substances.	7549	23rd Jan. 1838	Thomas Hancock.
Cutting india-rubber - - - - -	8171	1st Aug. 1839	Christopher Nickels.
Preparing solutions of certain vegetable and animal matters, applicable to preserving wood and other substances, and for other uses [ <i>india-rubber, gums, resins, and phosphorus</i> ].	9807	27th June 1843	Alexander Parkes.
Plastic composition applicable to the fine arts, and to useful and ornamental purposes [ <i>plaster formed of glutinous matter, with a small portion of india-rubber</i> ].	9900	5th Oct. 1843	Margaret Henrietta Marshall.
Manufacture of caoutchouc, and caoutchouc in combination with other substances; machinery or apparatus for preparing caoutchouc and other materials.	9935	9th Nov. 1843	Walter Hancock.
Preparation or manufacture of caoutchouc in combination with other substances; suitable for rendering leather, cloth and other fabrics water-proof, and for various other purposes for which caoutchouc is employed.	9952	21st Nov. 1843	Thomas Hancock.
Preparation of caoutchouc or india-rubber; manufacturing various fabrics of which the same forms a component part.	10,027	30th Jan. 1844	William Edward Newton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;c.—continued.</b>			
Preparing a composition of india-rubber and other matters, for forming articles therefrom, and for coating the surfaces of leather and woven and other fabrics.	10,092	6th March 1844	Thomas Forster.
Machinery for cutting india-rubber and other elastic substances into balls and other solid figures.	10,110	19th March 1844	William Henry Burke.
Preparation and application of artificial fuels, mastics, and cements [ <i>employment of gutta-percha in the manufacture</i> ].	10,550	11th March 1845	Richard Archibald Brooman.
Manufacture of gutta-percha, and its application alone and in combination with other substances [ <i>gilding or coating gutta-percha or its compounds with metallic leaf</i> ].	11,032	12th Jan. 1846	Charles Hancock.
Manufacturing and treating articles made of caoutchouc, either alone or in combination with other substances; means used or employed in their manufacture.	11,135	18th March 1846	Thomas Hancock.
Preparation of certain vegetable and animal substances, and certain combinations of the same substances, alone or with other substances [ <i>dissolving, purifying, and dyeing caoutchouc and gutta-percha; also preparing them alone or in combination with each other or with fibrous substances, or wood, cork, earth, metallic oxydes, and bronzes, for the purpose of moulding into various articles.</i> ] [The words in the title printed in <i>italics</i> were disclaimed].	11,147	25th March 1846	Alexander Parkes.
Manufacture of gutta-percha; and its application alone and in combination with other substances.	11,208	15th May 1846	Charles Hancock.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>producing the "change"</i> ]	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Treating caoutchouc with other materials, to produce elastic and impermeable compounds.	11,507	8th Feb. 1847	Stephen Moulton.
Preparation of gutta-percha; its application to manufacturing purposes, alone and in combination with other materials;—applicable to other substances.	11,575	10th Feb. 1847	Charles Hancock.
Machinery for cutting india-rubber and dissolving india-rubber and other gums.	11,850	2nd Sept. 1847	Thomas Forster.
Preparation of gutta-percha; its application to manufacturing purposes, alone and in combination with other materials.	11,874	24th Sept. 1847	Charles Hancock.
Combining gutta-percha with certain materials and applying it to waterproofing fabrics; moulding and finishing the surfaces of various articles made therefrom; also cleansing gutta-percha.	11,917	21st Oct. 1847	Thomas Forster.
Manufacture or treating of india-rubber	11,940	4th Nov. 1847	Joshua Proctor Westhead.
Treating or manufacturing gutta-percha or any of the varieties of caoutchouc	12,007	30th Dec. 1847	{ Thomas Hancock. Reuben Phillips.
Preparations and compounds of gutta-percha; manufacture of articles and fabrics composed of gutta-percha, alone and in combination with other materials.	12,153	11th May 1848	Charles Hancock.
Combining gutta-percha and caoutchouc with other materials.	12,206	10th July 1848	Anthony Lorimier.
Apparatus and machinery for giving shape and configuration to plastic substances [ <i>moulding</i> ].	12,223	29th July 1848	Charles Hancock.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;c.—continued.</b>			
Process of and apparatus for treating fatty bodies; application of the products thereof to various useful purposes [ <i>dissolving india-rubber by means of an oil obtained from refuse matters resulting from the distillation of fatty bodies</i> ].	12,342	25th Nov. 1848	Pierre Armand le Comte de Fontainemoreau.
Preparing and manufacturing india-rubber "caoutchouc."	12,407	11th Jan. 1849	Christopher Nickels.
Manufacture of treating solvents of india-rubber and other gums [ <i>employing chloride or bi-chloride of carbon in dissolving india-rubber, gutta-percha, and other gums</i> ]	12,585	26th April 1849	{ George Simpson. Thomas Forster.
Composition of matter applicable as a substitute for oil to the lubrication of machinery, and for other purposes [ <i>caoutchouc dissolved in oil and other materials</i> ].	12,596	1st May 1849	Alexander Munkittrick.
Dissolving certain gums or combinations of the same; apparatus or machinery to be used for the purpose [ <i>varnishes and cement of gutta-percha, india-rubber, and other materials</i> ].	12,643	7th June 1849	Edward John Payne.
Dissolving caoutchouc and gutta-percha - -	13,069	7th May 1850	Gustave Eugène Michel Gerard.
Forming and moulding plastic substances; machinery and apparatus employed therein [ <i>gutta-percha</i> ].	13,146	20th June 1850	John Hunt.
Manufacture of caoutchouc or india-rubber - -	13,170	9th July 1850	Alfred Vincent Newton.
Preparation of gutta-percha and caoutchouc;—application thereof.	13,721	14th Aug. 1851	Stephen Moulton.
Chemical combination of certain agents for obtaining a new plastic product [ <i>combining gutta-percha with oxyde of zinc, spar, or amianthus</i> ].	13,894	12th Jan. 1852	Alcide Marcellin Duthoit.
New or improved compositions; machinery for pressing or moulding the same;—applicable to moulding or pressing other substances [ <i>gutta-percha, flour, and woody fibre</i> ]	14,088	29th April 1852	{ John Hinks. Eugène Nicolle.
Plastic composition applicable to manufacturing purposes [ <i>compound of Roman cement and gutta-percha</i> ].	14,207	6th July 1852	Alfred Henry Gaullie.
Manufacture or treatment of india-rubber and gutta-percha; application thereof.	14,230	20th July 1852	Emery Rider.
Combining caoutchouc with other matters [ <i>coal tar and sulphur</i> ].	14,299	18th Sept. 1852	Moses Poole.
<b>II.—As applied to Cloth and Wearing-apparel.</b>			
Process and manufacture for rendering the texture of hemp, flax, wool, cotton, silk, also leather, paper and other substances, impervious to water and air [ <i>dissolved caoutchouc employed for attaching two fabrics together</i> ].	4804	17th June 1823	Charles MacIntosh.
Preparing and making waterproof cloth and other materials for the manufacture of hats, bonnets, caps and wearing-apparel, and manufacturing the same therefrom [ <i>saturating threads in a solution of caoutchouc, gum, or shellac, and after weaving the same submitting the cloth to heat, which renders it waterproof</i> ].	5018	14th Oct. 1824	William Philip Weise.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;c.—continued.</b>			
Making an article as a substitute for leather;—applicable to various other purposes [ <i>caoutchouc applied to filaments of flax, cotton, &amp;c. to produce an article resembling leather</i> ].	5045	29th Nov. 1824	Thomas Hancock.
Manufacture to be used as a substitute for leather and otherwise [ <i>caoutchouc applied to woven cloth</i> ].	5120	15th March 1825	Thomas Hancock.
Cleaning and dressing woollen cloths; apparatus for the purpose [ <i>by fillets of india-rubber or sponge affixed to a gig barrel</i> ].	5806	15th Jan. 1828	George Daniel Harris.
Composition applicable to certain fabrics, from which may be manufactured boots, shoes, and other articles [ <i>artificial leather, principally composed of caoutchouc applied to cloth</i> ].	5775	10th March 1829	Richard Hall.
Weaving elastic fabrics [ <i>using india-rubber combined with fibrous materials</i> ].	6334	14th Nov. 1832	James Vincent Desgrande.
Manufacture of elastic goods or fabrics [ <i>by the introduction of india-rubber cords or strands between the loops or stitches</i> ].	6366	17th Jan. 1833	Robert William Sievier.
Preparing and applying india-rubber (caoutchouc) to fabrics.	7178	1st Sept. 1836	John Pickersgill.
Process of rendering cloth and other fabrics partially or entirely impervious to air and water, by means of caoutchouc or india-rubber.	7344	18th April 1837	Thomas Hancock.
Construction of boots and shoes or other coverings for the human feet [ <i>by the introduction of gussets or gores of india-rubber</i> ].	7493	2nd Dec. 1837	James Dowie.
Manufacture of hosiery, shawls, carpets, rugs, blankets, and other fabrics [ <i>by cementing short threads on to canvas, by means of dissolved caoutchouc</i> ].	7606	4th April 1838	William Angus Robertson.
Manufacturing carpets, rugs, and other napped fabrics [ <i>by combining lengths of yarn, by means of india-rubber cement</i> ].	7620	21st April 1838	Moses Poole.
Looms for weaving; mode or method of producing figured goods or fabrics [ <i>by the introduction of strands of india-rubber among the threads</i> ].	7763	6th Aug. 1838	Robert William Sievier.
Forming a fabric applicable to various uses by combining caoutchouc or certain compounds thereof with wood, whalebone, or other fibrous materials manufactured for that purpose, or with metallic substances manufactured or prepared [ <i>by weaving or plating, and then saturating with caoutchouc</i> ].	8362	8th Feb. 1840	James Hancock.
Producing surfaces on leather and fabrics [ <i>waterproofing leather, or leather made into boots, shoes, portmanteaus, and other articles, by means of an india-rubber dressing</i> ].	8441	23rd March 1840	Charles Keene.
Manufacture of braid and plaits [ <i>using threads or tapes of india-rubber in such manufacture</i> ] - - }	8799	19th Jan. 1841	{ Caleb Bedells. Christopher Nickels. Archibald Turner.
Fabric suitable for making friction gloves, horse brushes, and other articles requiring a rough surface [ <i>using solutions of caoutchouc in the manufacture</i> ].	8830	3rd Feb. 1841	William Hancock, junior.
Manufacturing certain descriptions of cloths [ <i>coating cloth with india-rubber cement, for waterproofing the same</i> ].	9624	1st Feb. 1843	James Clark.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;c.—continued.</b>			
Manufacture of fabrics made by lace machinery [ <i>introducing strands of india-rubber</i> ].	9735	22nd May 1843	Christopher Nickels.
Manufacturing various fabrics of which caoutchouc forms a component part.	10,027	30th Jan. 1844	William Edward Newton.
Manufacture of elastic fabrics; making articles from elastic fabrics [ <i>using india-rubber weft, also twisted strands of the same; cementing india-rubber strands between fabrics; cutting india-rubber sheets by a circular knife acting against a cylinder</i> ] - - - - -	10,047	25th Nov. 1844	{ William Alsop. Thomas Forster.
Combinations of materials to be used as a substitute for canvas and other surfaces employed as grounds for painting, and some of which are applicable to other purposes [ <i>india-rubber combined with earthy, woody, or fibrous matter</i> ].	10,054	14th Feb. 1844	Elijah Galloway.
Manufacture of elastic fabrics [ <i>using india-rubber to cement looped fabrics</i> ].	10,080	19th Feb. 1844	Caleb Bidella.
Manufacture of elastic fabrics, and rendering elastic fabrics less elastic [ <i>introducing strands of india-rubber into knit fabrics</i> ] - - - - -	10,081	19th Feb. 1844	{ Christopher Nickels. Benjamin Nickels.
Manufacture of elastic webs and cords [ <i>weaving with india-rubber as weft, covered or uncovered</i> ].	10,552	13th March 1845	Christopher Nickels.
A thread made from a substance not hitherto applied to that purpose; application of it to the manufacture of piece-goods, ribbons, paper, and other articles [ <i>making a thread from gutta-percha</i> ].	10,582	27th March 1845	Richard Archibald Brooman.
Fabrics used for and applicable to curtains, screens, blinds, and other like purposes [ <i>employing caoutchouc for waterproofing fabrics</i> ].	10,583	29th March 1845	Henry Tylor.
Manufacture of fabrics from fibrous materials [ <i>preparing gutta-percha for use in such manufacture</i> ].	10,682	22nd May 1845	James Clark.
Boots, shoes, gaiters, overalls, and other like articles of wearing-apparel [ <i>application of india-rubber in such manufacture</i> ].	10,692	29th May 1845	Charles Keene.
Trouser fastenings, and attaching the same; application of an elastic material or fabric to trousers and other articles of dress [ <i>applying portions of fabric elasticated by gutta-percha or caoutchouc</i> ].	10,694	31st May 1845	John Masters.
Manufacturing india-rubber fabrics - - -	10,820	28th Aug. 1845	Alfred Vincent Newton.
Manufacture of carpets, rugs, and piled fabrics [ <i>employing india-rubber or other adhesive substances for cementing the pile to strong cloth</i> ].	10,879	10th Oct. 1845	James Taylor.
Manufacture of embossed or pressed paper, calico, leather, and other fabrics and articles [ <i>employing india-rubber combined with other matters</i> ].	10,935	11th Nov. 1845	Charles Frederick Bielefeld.
Manufacture of fabrics which may be made air and water proof; part of the materials, when combined with other matters, being intended to produce covering for vessels of capacity [ <i>using india-rubber or gutta-percha for cementing and waterproofing cloths</i> ].	11,055	20th Jan. 1846	William Henry Burke.
Combination of materials to be used as a substitute for leather or waterproof cloth, and other similar useful purposes [ <i>a cement of linseed oil and a solution of india-rubber, which may be applied to cloth</i> ].	11,093	17th Feb. 1846	Jacque Kloet.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;c.—continued.</b>			
Manufacture of gloves [ <i>application of india-rubber rendered permanently elastic, to the wrists of gloves</i> ].	11,402	8th Oct. 1846	Francis Nalder.
Producing a certain texture elastic in some parts; [ <i>introducing elastic threads at certain intervals in making double cloth</i> ].	11,549	28th Jan. 1847	Elizabeth Oudinot Lutel.
Manufacture of woven fabrics, giving elasticity to certain articles or fabrics [ <i>using a solution of india-rubber or gutta-percha, or both combined for coating fabrics</i> ].	11,729	3rd June 1847	Christopher Nickels.
Manufacture of elastic fabrics and articles [ <i>sewing vulcanized india-rubber between two surfaces of leather or woven fabrics</i> ].	11,808	20th July 1847	Thomas Barnabas Daft.
Machinery for cutting india-rubber; rendering fabrics waterproof, and making articles from the same; * <i>dissolving india-rubber and other gums</i> .	11,850	2nd Sept. 1847	Thomas Forster.
Manufacture of elastic fabrics from vulcanized india-rubber, gutta-percha, or certain fibrous materials.	11,890	7th Oct. 1847	John Tyrrell.
Manufacture of boots and shoes [ <i>application of gutta-percha and india-rubber</i> ].	11,909	14th Oct. 1847	David Fisher.
Combining gutta-percha with certain materials and applying it to waterproofing fabrics.	11,917	21st Oct. 1847	Thomas Forster.
Fabrics elasticated by gutta-percha or any of the varieties of caoutchouc.	11,938	2nd Nov. 1847	Thomas Hancock.
Dress fastenings; attaching the same articles, made wholly or in part of certain flexible materials or fabrics [ <i>employing caoutchouc or gutta-percha in making braces and stock-stiffeners</i> ].	12,120	12th April 1848	John Masters.
Means of weaving plain and figured fabrics [ <i>employing threads or strips of gutta-percha in weaving narrow wares</i> ].	12,292	19th Oct. 1848	Robert William Sievier.
Manufacture of boots, shoes, and elog; [ <i>employing gutta-percha in such manufacture</i> ].	12,296	26th Oct. 1848	James Clark.
Manufacture and application of leather and of certain vegetable substances to be used in combination with leather, india-rubber, canvas, silk, cotton-wool and other fibrous substances, in the manufacture of certain waterproof articles.	12,466	8th Feb. 1849	Thomas Charles Clarkson.
Manufacture of woollen and other fabrics [ <i>employment of gutta-percha threads in the manufacture</i> ].	12,472	12th Feb. 1849	Christopher Nickels.
Manufacture of woven and twisted fabrics [ <i>using gutta-percha in the manufacture</i> ].	12,485	28th Feb. 1849	Clemence Augustus Kurtz.
Manufacture of waddings [ <i>by introducing a series of threads or woven fabric on to the back or into the body of the wadding, and a solution of gutta-percha, instead of size, for the backs of waddings</i> ].	12,502	3rd March 1849	Edward Westhead.
Manufacture of airproof and waterproof fabrics, and preparation of caoutchouc and gutta-percha either alone or in combination with other materials, the same being applicable to articles of wearing-apparel and other similar useful purposes.	12,591	26th April 1849	William Henry Burke.
Improvements partly applicable to the manufacture of waterproof fabrics and leather [ <i>employing india-rubber dissolved in turpentine</i> ].	12,660	14th June 1849	Michael John Haines.
Manufacture of woollen and other fabrics [ <i>employing gutta-percha in piled fabrics, when woven weft is employed</i> ].	12,671	26th June 1849	Christopher Nickels.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;c.—continued.</b>			
Looms for weaving [ <i>application of india-rubber to the backs of reeds</i> ] - - - - -	12,997	7th March 1850	{ John Tayler. Richard Hurst.
Improvements applicable to boots, shoes, and other coverings for or appliances to the feet [ <i>india-rubber shoes</i> ].	13,103	6th June 1850	William Edward Newton.
Manufacture of looped fabrics [ <i>employing india-rubber in looped fabrics</i> ] - - - - -	13,253	12th Sept. 1850	{ Robert Longdon, junior. Thomas Parker Tabberer.
Manufacturing carpets and fabrics [ <i>using gutta-percha on printing-rollers</i> ].	13,445	11th Jan. 1851	William Melville.
Manufacture of carpets, rugs, and other fabrics [ <i>using caoutchouc in the manufacture of mosaic rugs</i> ].	13,474	28th Jan. 1851	Joseph Crossley.
Manufacture of bonnets and other coverings for the head [ <i>employing a solution of india-rubber or gutta-percha, or both combined, for making such articles waterproof</i> ] - - - - -	13,524	24th Feb. 1851	{ John Hinks. James Vero.
Manufacturing of boots and shoes; also machinery and materials to be used therein [ <i>waterproofing by employing thin sheets of gutta-percha</i> ].	13,611	30th April 1851	Philip Webley.
Manufacture of woven and felted fabrics [ <i>using caoutchouc for waterproofing or coating felted, woven, or other fabrics and yarns</i> ].	13,612	3rd May 1851	William Edward Newton.
Manufacture of knitted, looped, and other elastic fabrics [ <i>covering strands of india-rubber with a looped or knit fabric</i> ] - - - - -	13,890	24th Dec. 1851	{ Christopher Nickels. Thomas Ball. John Woodhouse Bagley.
Boots, shoes, elogs, and similar articles [ <i>using india-rubber in their manufacture</i> ].	14,221	15th July 1852	Moses Poole.
<b>III.—As applied in making Springs.</b>			
Apparatus on which to suspend carriage bodies [ <i>springs formed by helical coils of steel wire or by pieces of india-rubber in boxes</i> ].	5423	18th Nov. 1826	Henry Charles Lacey.
Application of springs to locks and other fastenings, paper-holders, candle-lamps, blinds, window-sashes, and doors, and to seats and elastic surfaces for sitting and reclining on.	10,460	11th Jan. 1845	Stephen Perry.
Springs to be applied to girths, belts, and bandages, } manufacture of elastic bands [ <i>employing a prepa- ration of india-rubber in the manufacture</i> ] - - }	10,566	17th March 1845	{ Stephen Perry. Thomas Barnabas Daft.
Construction of carriages for railways [ <i>india-rubber buffer and other springs</i> ].	10,894	23rd Oct. 1845	William Coles Fuller.
Pianofortes [ <i>applying springs of india-rubber to hammers, and covering the wire strings with india-rubber, gutta-percha and catgut</i> ].	10,897	27th Oct. 1845	Benjamin Nickels.
Applying springs to braces, to portfolios, to hats and caps, and memorandum and other books [ <i>application of india-rubber rings made permanently elastic</i> ].	11,513	31st Dec. 1846	Charles Dowse.
Buffing and traction apparatus and springs for railway and other carriages [ <i>vulcanized india-rubber rings and separating plates</i> ].	11,615	26th July 1847	Charles De Bergue.
Carriages used on railways [ <i>india-rubber springs</i> ] -	12,019	5th Jan. 1848	Charles De Bergue.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;c.—continued</b>			
Steam-engines, pumps, and springs, for railway and other purposes [ <i>pump bucket-valve composed of a disc of vulcanized india-rubber or other flexible substance</i> ].	12,435	23rd Jan. 1849	Charles De Bergue.
Locomotive and other steam-engines; also buffers for railway purposes [ <i>washers of vulcanized india-rubber for buffing apparatus</i> ].	13,043	15th April 1850	Charles De Bergue.
Springs of railway carriages, trucks, and waggons [ <i>rings of galvanized india-rubber for buffer, bearing, and draw springs</i> ].	13,951	2nd Feb. 1852	George Spencer.
Construction of railways and railway carriages;—partly applicable to carriages on common roads [ <i>employing india-rubber springs</i> ].	14,018	8th March 1852	Paul Rapsey Hodge.
Application of india-rubber and gutta-percha, and of compounds thereof [ <i>to produce spring bearings</i> ].	14,193	28th June 1852	James Edward Coleman.
Elastic ribs, sticks strips and fillets used in the manufacture of umbrellas, parasols, and various other articles, in substitution of whalebone and steel [ <i>also using india-rubber combined with sulphur in making springs for corsets</i> ].	14,348	27th Nov. 1852	Moses Poole.
<b>IV.—As applied to Tubing, Taps, Bottles, and Stoppers.</b>			
Securing volatile and other fluids and concrete or other substances in bottles and vessels [ <i>by placing a collar of caoutchouc round the stopper</i> ].	5304	3rd Dec. 1825	Henry Berry.
Glueing or cementing certain materials for building and other purposes [ <i>india-rubber hose for fire-engines</i> ].	9763	10th June 1843	Henry Austin.
Manufacture of glass [ <i>forming surfaces of india-rubber for holding glass while it is being ground and polished</i> ].	9815	6th July 1843	James Hartley.
Cork and other stoppers; new composition or substance which may be used as a substitute for and in preference to cork; manufacturing the same into hungs, stoppers, and other useful articles [ <i>making compositions of caoutchouc or gutta-percha, and using them in the manufacture of stoppers</i> ].	10,185	15th May 1844	Charles Hancock.
Material or combination of materials suitable for piping, and most other purposes to which wood and iron are applicable [ <i>various substances combined with india-rubber</i> ].	10,327	26th Sept. 1844	Edwin Edward Cassell.
Flexible syringes, tubes, bottles, hose, and other like vehicles and vessels [ <i>employing gutta-percha in the manufacture</i> ].	10,825	4th Sept. 1845	Henry Bewley.
Sewerage and drainage, and apparatus connected therewith [ <i>manufacture of a valve or trap made of vulcanized india-rubber or gutta-percha</i> ].	11,436	22nd Oct. 1846	James Lysander Hale.
Hydraulic and pneumatic machines; application of steam or other power thereto [ <i>employing a seating of gutta-percha for closing valves of such machinery</i> ].	11,669	22nd April 1847	John Walker.
Corks for drawing off liquids and gases [ <i>lining taps with vulcanized india-rubber or gutta-percha</i> ].	12,012	5th Jan. 1848	Josiah George Jennings.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;c.—continued.</b>			
Atmospheric and other railways [using strips or facings of gutta-percha for closing the traction-tube].	12,452	6th Feb. 1849	John Browne.
Preserving lives and property from fire [applying gutta-percha or india-rubber pipes to cisterns].	12,569	16th April 1849	John Ruthven.
Improvements applicable to the manufacture of tubes and other like articles of utility [by uniting sheets of india-rubber or india-rubber fabric].	13,109	8th June 1850	William Newton.
Forming and moulding plastic substances; apparatus employed therein; using gutta-percha in the manufacture of tubings, and for other purposes.	13,146	20th June 1850	John Hunt.
Apparatus connected with waterclosets, drains and cesspools, and gas and air traps [passages of india-rubber made so as to collapse].	13,195	25th July 1850	Charles William Bell.
Blasting rocks [by employment of gutta-percha tubes and vessels].	13,344	14th Nov. 1850	Joseph Conrad Baron Liebhaber.
Surgical instruments [tubes and vessels of india-rubber and gutta-percha for medical purposes] -	13,674	24th June 1851	{ Richard Edward Hodges William Brockedon.
Manufacture of bottles and jars of glass, clay, gutta-percha or other plastic material, and caps and stoppers for same; machinery for pressing and moulding the same.	14,059	15th April 1852	François Joseph Beltzurg.
Coating metal tubes [with gutta-percha or gutta-percha combined with other matters].	14,133	22nd May 1852	John James Russell.
Manufacture of gutta-percha tubing - - -	14,175	21st June 1852	William Burgess.
<b>V.—As applied to Straps, Bands, and Cordage.</b>			
Application of a certain material to render various parts of dress and other articles more elastic [bandages of india-rubber].	4451	29th April 1820	Thomas Hancock.
Preparation or process of making ropes, cordage and other articles, from hemp, flax, and other fibrous substances [covering ropes with caoutchouc in a liquid state].	5122	15th March 1825	Thomas Hancock.
Manufacturing or making cables, ropes, whale-fishing and other lines, lathe and rigger bands, bags and purses, part of which said improved articles are applicable to other useful purposes [by the application of filaments, threads, or strands of caoutchouc or india-rubber].	6193	1st Dec. 1831	Robert William Sievier.
Raising water and other fluids [forming straps for such purpose by the aid of india-rubber cement].	8662	15th Oct. 1840	James Hancock.
Straps and bands [formed by a combination of metal wires with leather or gutta-percha, or both].	11,087	11th Feb. 1846	William Wharton.
Manufacture of rings, straps, bands and bandages, cords and strings, and their application to clock-work, locks and other fastenings, presses, books, paper-holders, candle-lamps, window-sashes, window-blinds, seats, and surfaces for lying and reclining upon.	11,212	19th May 1846	Stephen Perry.
Machinery for making cards [with bands of vulcanized india-rubber to act as springs] - - -	11,814	24th July 1847	{ John Platt. Thomas Palmer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;c.—continued.</b>			
Suspending window-sashes; construction of frames for the same [ <i>suspending such articles by means of bands or cords of vulcanized india-rubber</i> ].	11,959	11th Nov. 1847	George James Soward.
Manufacture of bands or straps for hats, caps, shoes, and stocks [ <i>applying a thin coating of gutta-percha to the interior surface of the same</i> ].	12,191	24th June 1848	Deane Samuel Walker.
Jacquard machinery for figuring fabrics and tissues generally, and apparatus for transmission of designs to said jacquard machinery, parts of which are applicable to playing musical instruments, composing printing-types, and other like purposes [ <i>using endless bands of gutta-percha having a pattern punctured thereon</i> ].	12,229	5th Aug. 1848	Duncan Mackenzie.
Preparation of caoutchouc and gutta-percha, either alone or in combination with other materials, applicable to bands, straps, and other similar useful purposes.	12,591	26th April 1849	William Henry Burke.
Manufacture of bands for driving machinery; hose or pipes, and buffers for railway purposes [ <i>coating the same with gutta-percha</i> ].	12,838	2nd Nov. 1849	Michael John Haines.
Manufacture of cords, ropes, bands, strong cloths, quilting, sacks and cushions, and elastic material for stuffing the latter, in which manufacture caoutchouc forms an essential ingredient; application of parts to the manufacture of pads, stoppers, tubes, boxes, baskets, coverings, wrappers, and other like articles of utility.	13,109	8th June 1850	William Newton.
<b>VI.—As applied to Machinery, Building, Sheathing, and Paving.</b>			
Cards for carding wool, cotton, silk, and other fibrous substances [ <i>applying india-rubber backs</i> ].	6584	27th March 1834	James Walton.
Paving or covering roads and other ways or surfaces [ <i>with blocks formed of india-rubber combined with sawdust, sand, or broken stone</i> ].	8617	7th Sept. 1840	William Freeman.
Lining walls of houses [ <i>with fabrics coated on the back with india-rubber</i> ].	9971	22nd Aug. 1843	John Collard Drake.
Covering roofs of houses and other buildings; covering valves used when propelling by atmospheric pressure; covering the sleepers of railways; and covering parts of stringed and keyed musical instruments [ <i>adapting and applying certain preparations of india-rubber to the same</i> ].	10,270	24th July 1844	William Brockedon.
Material or combination of materials suitable for paving, roofing, and most other purposes to which wood and iron are applicable [ <i>various substances combined with india-rubber</i> ].	10,327	26th Sept. 1844	Edwin Edward Cassell.
Machinery to be used for spinning cotton and other fibrous substances [ <i>using gutta-percha for making rollers</i> ] - - - - -	11,271	29th June 1846	{ John Tatham. David Cheetham. John Wallace Duncan.
Buoys; and giving buoyancy to boats [ <i>by the application of caoutchouc</i> ].	11,356	29th Aug. 1846	Arthur Howe Holdsworth.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;c.—continue d.</b>			
Apparatus and machinery for raising, lifting, and otherwise moving heavy bodies [ <i>balloon buoys made of india-rubber.</i> ]	11,509	23rd Dec. 1846	Pierre Frederic Gougy.
Machinery, instruments and processes for the preparation and manufacture of flax and other fibrous materials [ <i>using gutta-percha combined with wood or iron, or wood and iron, in the making of holders.</i> ]	12,515	14th March 1849	Robert Plummer.
Machinery for preparing cotton and other fibrous materials [ <i>coating carding-cylinders with gutta-percha</i> ]	12,535	26th Sept. 1849	{ John Mason. George Collier.
Marine vessels; apparatus for preservation of human life; moulding, joining, and finishing hollow and solid figures composed wholly or in part of certain gums or combinations of the same; dissolving the same; apparatus or machinery to be used for the purposes [ <i>life-boats of metal ribs covered with gutta-percha; gutta-percha dolls; varnishes and cement of gutta-percha, india-rubber, and other materials.</i> ]	12,643	7th June 1849	Edward John Payne.
Manufacture of packing for steam-engine cylinders, and for other purposes;—partly applicable to the manufacture of waterproof fabrics and leather [ <i>employing india-rubber dissolved in turpentine for cementing packings.</i> ]	12,660	14th June 1849	Michael John Haines.
Building ships, boats and other vessels [ <i>application of planks and boards of wood coated with gutta-percha, or gutta-percha combined with other matters.</i> ]	12,673	27th June 1849	John Thomas Forster.
Sheathing ships and vessels [ <i>application of gutta-percha or compounds of gutta-percha.</i> ]	12,684	4th July 1849	John Grantham.
Closing doors, windows and shutters by application of india-rubber or gutta-percha.	12,927	12th Jan. 1850	John Milwain.
Rollers to be used in the manufacture of silk, cotton, woollen, and other fabrics [ <i>covering drawing rollers with vulcanized caoutchouc</i> ]	12,986	2nd March 1850	{ Thomas Richards. William Taylor. James Wyld.
Machinery or apparatus and operations connected with the manufacture of cotton-wool, silk, and other fibrous substances and fabrics, and the application of certain materials to the manufacture of textile fabrics [ <i>using gutta-percha and its compounds for forming cog-wheels and caps for the feet of spindles</i> ]	13,072	7th May 1850	{ John Tatham. David Cheetham.
Preventing the external air, dust and noise from entering apartments [ <i>coating with a solution of india-rubber or gutta-percha, rolls of fibrous materials glued over crevices.</i> ]	13,106	31st July 1850	Rodolphe Helbronner.
Machinery for pumping, forcing, and exhausting steam, fluids, and gases; adaptation thereof to the saturation, separation, and decomposition of substances [ <i>using gutta-percha and caoutchouc in the construction of centrifugal pumps.</i> ]	13,577	31st March 1851	John Gwynne.
Manufacture of kamptulicon [ <i>uniting and cementing kamptulicon and portions of the same by means of india-rubber solution.</i> ]	13,713	7th Aug. 1851	Lockington S <sup>r</sup> Laurence Bunn.
Engines for applying the power of steam and other fluids for impelling purposes; manufacture of appliances for transmitting motion [ <i>using gutta-percha in making wheels and bosses for spinning-machinery, and in making apparatus for transmitting motion to ships and other vessels.</i> ]	13,736	4th Sept. 1851	John Wallace Duncan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;C.—continued.</b>			
Forming or covering roads, floors, doors, and other surfaces, carriage-wheels and horse-shoes [ <i>by employing gutta-percha or vulcanized india-rubber</i> ].	13,765	9th Oct. 1851	Sir John Scott Lillie.
Treatment, manufacture, and application of materials or substances for building purposes [ <i>gutta-percha in combination with various substances</i> ].	13,850	8th Dec. 1851	William Pidding.
Construction of railways and railway carriages;—partly applicable to carriages on common roads [ <i>using rings of india-rubber in making railway carriage wheels</i> ].	14,018	8th March 1852	Paul Rapsey Hodge.
Improvements in and applicable to boats, ships, and other vessels [ <i>application of vulcanized india-rubber to close the vents of ships</i> ].	14,130	22nd May 1852	Richard Roberts.
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<b>VII.—As applied to Telegraphic and Printing Purposes.</b>			
Electric telegraphs and apparatus connected there- } with [ <i>covering telegraphic wires with gutta-percha</i> ]	12,136	27th April 1848	{ William Henry Barlow. Thomas Forster.
Electric telegraphs; apparatus connected therewith [ <i>covering telegraphic wires with two fillets of gutta-percha, or gutta-percha mixed with other substances</i> ].	12,262	4th Sept. 1848	John Lewis Ricardo.
Manufacture of letters and figures to be applied to shop fronts and other surfaces [ <i>moulding letters and figures of gutta-percha</i> ].	12,511	14th March 1849	Robert Ross Rowan Moore.
Electric telegraphs [ <i>covering telegraphic wires with gutta-percha</i> ].	13,062	23rd April 1850	Ernst Werner Seimens.
Telegraphic and printing apparatus [ <i>a typographic printing surface of gutta-percha and other materials</i> ].	13,326	7th Nov. 1850	Robert Lucas.
Printing, and manufacture of printing apparatus [ <i>making inking-rollers of printing machinery by covering them with soft and prepared gutta-percha</i> ].	13,453	16th Jan. 1851	Gustav Adolph Buckholz.
Protecting insulated electro-telegraphic wires, and methods and machinery for the purpose [ <i>protecting wires covered with gutta-percha, by means of a lead tube</i> ].	13,660	12th June 1851	John Chatterton.
Covering wires for telegraphic purposes [ <i>with bituminous varnish, and then applying successive coatings of gutta-percha or india-rubber, or of both combined</i> ].	14,057	6th April 1852	Moses Poole.
Manufacture of printing surfaces [ <i>compositions of gutta-percha, caoutchouc, and earthy matters</i> ].	14,113	1st May 1852	Alfred Vincent Newton.
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<b>VIII.—As applied to Miscellaneous Purposes.</b>			
Guards or protections for horses' feet and legs [ <i>horse boot of india-rubber</i> ].	5922	20th March 1830	Benjamin Rotch.
Manufacture of fancy ornaments and figures [ <i>from caoutchouc</i> ].	5970	5th Aug. 1830	Thomas Hancock.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;c.—continued.</b>			
Book-binding [ <i>attaching the leaves of books at their backs by means of caoutchouc or india-rubber in a fluid state or thin sheet</i> ].	7247	7th Dec. 1836	William Hancock.
Saddles for horses [ <i>applying slices of india-rubber as linings or coverings</i> ].	7540	13th Jan. 1838	Edward Davy.
Means of producing figured surfaces sunk and in relief, and of printing therefrom, and also of moulding, stamping, and embossing [ <i>employing caoutchouc for such purposes</i> ].	7552	25th Jan. 1838	Charles Hancock.
Combs [ <i>currycombs, fastening on the back a piece of leather, felt, or thin veneer with a solution of caoutchouc or any other strong flexible cement</i> ].	9301	21st March 1842	William Hancock.
Machinery and apparatus for raising, forcing, conveying and drawing off liquids [ <i>applying india-rubber in solution or sheets to diaphragms or pistons of leather to be used in pumps</i> ].	9480	8th Sept. 1842	John Wordsworth Robson.
Binding and covering books, pamphlets, portfolios, writing-cases, and other similar articles [ <i>using gutta-percha in such processes</i> ].	10,673	20th May 1845	Christopher Nickels.
Applying shoes to horses and other animals [ <i>by introducing vulcanized india-rubber between the shoe and hoof</i> ].	10,917	3rd Nov. 1845	Alfred Watney
Artificial palates, teeth and gums; machinery applied in the manufacture thereof [ <i>making casts in gutta-percha from casts in plaster of paris</i> ].	11,209	15th May 1846	Henry Valentine Bartlett.
Saddles [ <i>application of strips or straps and sheets of vulcanized india-rubber</i> ].	11,287	13th July 1846	William Middlemore.
Constructing inkstands and fastenings to elastic bands [ <i>of india-rubber, and vulcanizing the same</i> ].	11,554	1st Feb. 1847	Thomas Barnabas Daft.
Nautical instruments, and manufacture of cases for containing instruments, goods, or merchandise [ <i>by application of india-rubber, gutta-percha, or combinations of the same</i> ].	12,059	8th Feb. 1848	William Peter Piggott.
Construction and fixing artificial teeth and gums; supplying deficiencies, in the mouth [ <i>employing gutta-percha for the purpose, and coating gutta-percha with metals</i> ].	12,241	15th Aug. 1848	Edwin Thomas Truman.
Apparatus for ascertaining and marking the force or pressure of wind, water, and steam [ <i>a flexible diaphragm of vulcanized india-rubber</i> ].	12,575	17th April 1849	Alexander Alliot.
Manufacture of boxes and packing-cases, and other articles requiring to be waterproof [ <i>waterproofing by a coating of dissolved india-rubber or gutta-percha</i> ].	12,678	27th June 1849	John Thomas Forster.
Separating and assorting solid materials or substances of different specific gravities [ <i>application of blocks of india-rubber to revolving sieves used for pulverizing ores</i> ].	12,971	21st Feb. 1850	Alfred Vincent Newton.
Preparation of materials for production of a composition applicable to the manufacture of buttons, knife and razor handles, inkstands, door-knobs, and other articles where hardness, strength, and durability are required.	13,021	23rd March 1850	Alfred Vincent Newton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>INDIA-RUBBER, &amp;c.—continued.</b>			
Preparation of materials for production of a composition applicable to the manufacture of buttons, knife and razor handles, inkstands, door-knobs, and other articles where hardness, strength, and durability are required [ <i>gutta-percha or caoutchouc, alone or combined with sulphur, magnesia, lime, &amp;c.</i> ]	13,542	4th March 1851	Alfred Vincent Newton.
Surgical instruments [ <i>making india-rubber plugs for gunshot wounds</i> ]	13,674	24th June 1851	{ Richard Edward Hodges. William Brockedon.
Projectiles [ <i>using combinations of gutta-percha for forming the core for hollow rifle-balls</i> ].	14,027	20th March 1852	William Westley Richards.
Cartridge-boxes [ <i>also sword-scabbards, bayonet-sheaths, &amp;c., of gutta-percha, or gutta-percha combined with other materials</i> ].	14,029	22nd March 1852	John Drumgoole Brady.
Machinery and apparatus used in cutting, dressing, planing, framing, and otherwise working and treating slate; also joining, framing, and connecting the same [ <i>applying india-rubber, gutta-percha, &amp;c., to form connections of slabs, and to secure school slates in their frames</i> ]	14,165	12th June 1852	{ Edwin John Jeffery Dixon. Arthur John Dodson.
Machinery or apparatus applicable to the purposes of brushing and cleaning [ <i>application of india-rubber for forming the backs of brushes</i> ].	14,268	19th Aug. 1852	Charles Butler Clough.
Manufacture of combs [ <i>by employing caoutchouc combined with sulphur</i> ].	14,303	30th Sept. 1852	Moses Poole.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>I.</b>			
<b>LIGHT AND LIGHTING; LAMPS AND OTHER LUMINARIES;—ALSO MATCHES.</b>			
<b>I.—Production and Distribution of Light.</b>			
Casting and spreading light by foiled glass, polished without grinding; pipes of glass to hold candles or lamps.	187	18th Nov. 1675	Richard Reeves.
Lighting streets and passages by lamps and lanterns	227	1st Aug. 1683	John Vernatty.
New kind of light - - - - -	382	7th Aug. 1703	John Cole.
Lighting mills, factories, houses, shops, lamps, &c., by gas, the lights being regulated by syphons.	3333	2nd May 1810	John Maiben.
Lighting ships' compasses - - - - -	3525	23rd Jan. 1812	Richard Rowland.
Lighting binnacle compasses - - - - -	3540	19th Feb. 1812	George Dollond.
Lighting cities, towns, and villages - - -	3657	3rd March 1813	Sir Thomas Cochrane.
Means of illuminating apartments or places by the combination of tallow or other inflammable materials.	3652	10th Nov. 1814	Leger Didot.
Lighting the interior of offices, theatres, buildings, houses, or any place where light may be required.	4025	27th May 1816	Isaac Hadley Reddell.
Deck-glass rim and safety gate - - - - -	4223	3rd Feb. 1818	Grant Preston.
Machine for producing light [ <i>by chemical and mechanical means</i> ].	4927	20th March 1824	Henry Berry.
Lighting by gas - - - - -	5133	25th March 1825	Richard Witty.
Preparing oils extracted from certain vegetable substances; application thereof to gaslight and other purposes.	5306	6th Dec. 1825	Edmund Luscomb.
Illumination, or producing artificial light - -	5771	12th Feb. 1829	Edward Heard.
Preparation of a material produced from a vegetable substance; application thereof for the purpose of affording light, and for other uses.	5842	9th Sept. 1829	James Soames, junior.
Manufacture of a material produced from a vegetable substance; application thereof for affording light, and for other uses.	5863	2nd Nov. 1829	James Soames, junior.
Lighting places with gas - - - - -	6003	6th Oct. 1830	Michael Donovan.
Machine or apparatus applicable to the purposes of giving light and producing heated air at the same time.	6487	19th Oct. 1833	Richard Barnes.
Apparatus for producing light - - - - -	6543	18th Jan. 1834	James Boynton.
Production, maintenance, direction, or distribution of light;—partly applicable to other purposes - }	6941	3rd Dec. 1835	{ Alexander Gordon. James Deville.
Lighting or illuminating by gas, oil, or spirit lights or lamps.	7215	28th Oct. 1836	Thomas Edge.
Lighting - - - - -	7675	7th June 1838	{ John Coope Haddan. John Johnston.
Producing or affording light; "solar light" - -	7969	6th March 1839	Auguste Victor Joseph Baron d'Asda.
Apparatus for producing and distributing light -	8066	8th June 1839	{ Goldsworthy Gurney. Frederick Rixon.
Apparatus for producing and communicating artificial light.	8125	22nd June 1839	Luke Hebert.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Methods of producing or manufacturing certain inflammable substances, and of applying the heat and light derived from certain inflammable substances to various useful purposes [ <i>increasing the brilliancy of a flame of hydrogen gas by means of a platina wire-gauze, formed in the shape of a candle flame, and dipped into a strong paste of lime</i> ].	8141	3rd July 1839	Alexander Cruickshanks.
Apparatus for supplying light [ <i>lenses to lamps</i> ] -	8445	25th March 1840	William Palmer.
Lighting - - - - -	8486	28th April 1840	{ William Crane Wilkins. Matthew Samuel Kendrick.
Lighting buildings - - - - -	8509	12th May 1840	John Joseph Mechi.
Production and diffusion of light - - - - -	8909	25th March 1841	Goldsworthy Gurney.
Preparation of matters to be consumed in obtaining light; construction of burners for the same.	8941	27th April 1841	André Dronot De Charlien.
Producing light; manufacturing apparatus for the diffusion of light - - - - -	8989	17th June 1841	{ Alexander Horatio Simpson. Peter Hunter Irvin. Thomas Eugène Irvin.
Apparatus for lighting apartments - - - - -	9173	9th Dec. 1841	Robert Henderson.
Manufacturing from a vegetable substance, materials applicable for affording light, and for other uses [ <i>cocoa-nut oil</i> ].	9230	19th Jan. 1842	William Tindall.
Production of light by the burning of oil, tallow, and wax.	9330	26th April 1842	Septimus Cocking.
Apparatus for producing, regulating, and dispersing light.	9451	18th Aug. 1842	Goldsworthy Gurney.
Production of light - - - - -	9506	2nd Nov. 1842	Pierre Pelletan.
Producing light - - - - -	9527	25th Nov. 1842	Isham Baggs.
Apparatus for production of light - - - - -	9600	26th Jan. 1843	Frederick Albert Winsor.
Arrangements and apparatus for production and distribution of light.	9647	28th Feb. 1843	Gottlieb Boccus.
Apparatus for production and diffusion of light -	9755	3rd June 1843	Fennall Allman.
Application of certain volatile liquids for the production of light.	9772	10th June 1843	William Edward Newton.
Preparation of a certain material produced from a vegetable substance; application of the same for affording light, and for other uses [ <i>cocoa-nut oil</i> ] - - - - -	9874	24th Aug. 1843	{ William Wilson. John Stadholme Brownrigg. John Cockerell. Sir George Gerard de Hocheplé Larpent.
Production of light - - - - -	9881	6th Sept. 1843	Pierre Pelletan.
Applying gas for lighting caverns, pits, or mines -	10,139	10th April 1844	James Murray.
Apparatus for lighting - - - - -	10,304	5th Sept. 1844	Hipolyte Auguste Richard.
Apparatus for transmitting light from lamp and other burners.	10,384	7th Nov. 1844	Henry Borriskill Taylor.
Apparatus for purposes of lighting - - - - -	10,499	28th Jan. 1845	George James Norton.
Apparatus for production and diffusion of light [ <i>by electricity</i> ].	10,548	10th March 1845	Thomas Wright.
Preparation of materials for producing illumination	10,903	31st Oct. 1845	Henry Clark.
Obtaining light by electricity - - - - -	10,919	4th Nov. 1845	Edward Augustin King.
Lighting - - - - -	11,046	20th Jan. 1846	John Braithwaite.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Producing light; materials and apparatus applicable thereto - - - - -	11,146	25th March 1846	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson. John Jackson.
Apparatus for lighting the magazines and other parts of ships;—applicable to general purposes of lighting buildings, roads, or ways.	11,150	25th March 1846	Edward Crump Dell.
Gratings of metal or wood for the fronts of houses and general purposes, for the admission of light	11,230	28th May 1846	{ Richard Marvin. William Henry Moore.
Artificial light [employing glass of a particular colour for improving artificial light].	11,355	28th Aug. 1846	Richard Clarke Burleigh.
Lighting [by currents of voltaic electricity, and producing intermittent light from electric currents, for signals].	11,449	12th Nov. 1846	William Edwards Staite.
Lighting - - - - -	11,546	28th Jan. 1847	John Braithwaite.
Production of light; manufacture or preparation of materials applicable thereto.	11,633	23rd March 1847	George Fergusson Wilson.
Production and management of artificial light -	11,696	7th May 1847	Isham Baggs.
Production of artificial light - - - - -	11,734	7th June 1847	Richard Clark.
Application of oil from certain nuts, for giving light and for other uses.	11,774	3rd July 1847	Joseph Browne Wilks.
Effecting the combustion of gas, oil, camphine, and other substances burned for the production of light.	11,780	3rd July 1847	John Hunt.
Lighting; apparatus connected therewith [apparatus for lighting by electricity].	11,783	3rd July 1847	William Edwards Staite.
Distribution of artificial light - - - - -	11,895	7th Oct. 1847	Matthew Pierpoint.
Manufacture and purification of spirituous substances and oils, for the production of light and various useful purposes; application thereof to such purposes.	11,960	11th Nov. 1847	Charles Blachford Mansfield.
Lighting; lighting apartments and carriages;—partly applicable to other purposes.	12,129	20th April 1848	John Britten.
Production of light; apparatus to be used therewith.	12,192	24th June 1848	Henry Archer.
Manufacture of gas for illumination; manufacture of the residual products into articles of commerce [obtaining a spirit to be used for giving light].	12,303	6th July 1848	Joseph Clinton Robertson.
Application of electricity and magnetism for lighting.	12,312	12th July 1848	William Edwards Staite.
Apparatus for lighting by electricity - - - -	12,219	20th July 1848	Chevalier Alexandre Edward Le Molt.
Apparatus for the production of light from electricity.	12,276	28th Sept. 1848	Fennell Allman.
Reflectors and apparatus for artificial light - -	12,320	7th Nov. 1848	William Henry Kempton.
Production of light by burning oleic acid in lamps -	12,390	28th Dec. 1848	{ George Fergusson Wilson. Charles Humfrey.
Applying coke or the residual product of coke to lighting.	12,456	8th Feb. 1849	Henry Fisher.
Apparatus for obtaining light by electric agency -	12,462	16th Feb. 1849	Charles Thomas Pearce.
Method of and apparatus for lighting - - - -	12,491	28th Feb. 1849	Henry Crosley.
Deck-lights - - - - -	12,673	26th June 1849	Thomas Wood Gray.
Lighting - - - - -	12,682	4th July 1849	William Bush.
Electric batteries and production of light - -	12,697	4th July 1849	{ Robert Weare. William Peter Piggott.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Application of electric and galvanic instruments } and apparatus to lighting purposes.	12,772	20th Sept. 1849	{ William Edwards Staite. William Petrie.
Production of light in general - - - - -	12,858	22nd Nov. 1849	Joseph Pierre Gillard.
Producing light - - - - -	12,863	24th Nov. 1849	Ambroise Ador.
Treating peat and other carbonaceous and ligneous matters so as to obtain products therefrom [obtaining light by using peat-gas].	12,990	7th March 1850	William Benson Stones.
Lighting - - - - -	13,003	11th March 1850	William Crane Wilkins.
Production of light from ordinary coal-gas, by the use of burners of more than one ring or sheet of flame, with a suitable chimney supplied with air.	13,015	23rd March 1850	Horatio Carter.
Manufacture of vegetable fluid to be used in the production of artificial light [wood tar spirit, oil of turpentine, and naphtha].	13,048	18th April 1850	Abraham Moses Marbo.
Explosive compositions and instruments [shells and arrows charged with explosive compounds, to produce light at any required spot] - - - - -	13,215	6th Aug. 1850	{ Alexander Melville. Edward Callow.
Electro-magnetic apparatus for producing light -	13,302	24th Oct. 1850	Edward Clarence Shepard
Lighting and apparatus for lighthouses, signal, floating, and harbour lights.	13,318	7th Nov. 1850	William Crane Wilkins.
Apparatus for producing light - - - - -	13,347	14th Nov. 1850	Charles Allemand.
Obtaining light; apparatus connected therewith -	13,414	19th Dec. 1850	{ George Henry Bach- hoffner. Nathan Defries.
Instruments and apparatus for the admission of light into carriages and buildings; also the exclusion of light from the same.	13,624	7th May 1851	Thomas Robert Mellish.
Obtaining and applying light - - - - -	13,788	22nd Oct. 1851	{ William Boggett. George Holworthy Palmer.
Illuminating the dials of clocks and other instruments in which dials are employed.	13,798	4th Nov. 1851	Jules François Dorey.
Lighting - - - - -	13,922	27th Jan. 1852	Edward Simons.
Decorative illumination, and applying light for other purposes.	14,152	1st June 1852	William Henry Phillips.
Electro-magnetic apparatus for production of light -	14,197	6th July 1852	Edward Clarence Shepard
Obtaining light, &c., by the agency of electricity -	14,198	6th July 1852	Martyn John Roberts.
Artificial illumination; apparatus connected therewith.	14,254	7th Aug. 1852	Alexander Mills Dix.
Producing artificial light by electricity - - - -	14,330	21st Oct. 1852	Edward Henry Jackson.
Obtaining and applying light - - - - -	14,333	21st Oct. 1852	{ William Boggett. George Brooks Pettit.
<b>II.—Lamps and Lanterns—[Street, House, Coach, and Safety.]</b>			
Making lamps - - - - -	103	10th Feb. 1637	Thomas Tookey.
New experiment for the great and durable increase of light by means of extraordinary glasses and lamps, for the great improvement of ship lanterns, lighthouses, dispersing of lights in mines, and other uses where light and heat are required.	232	27th Feb. 1684	Edward Wyndus.
Lantern - - - - -	434	12th Aug. 1721	Isaac de la Chaumette.
Making lamps - - - - -	815	6th Feb. 1769	Joachim Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Alembical lamp or lantern - - - - -	1332	20th July 1782	Philip Besnard.
Lamp or lantern producing neither smoke nor smell.	1406	9th Dec. 1783	Michael Joseph Isidor Bouchet.
Lamp, producing neither smoke nor smell, and giving more light than any before known.	1425	15th March 1784	Ami Argand.
Convex mirror, lantern or lamp, for lighting carriages and houses, and for other purposes.	1519	21st Dec. 1785	Joseph Lucas.
Lamps - - - - -	1591	12th Feb. 1787	John Miles.
Making lamps - - - - -	1631	18th Oct. 1791	James Smethurst.
Lamp for lighting streets, houses, halls and shops, and for other purposes.	1640	18th March 1793	Edward Collinson.
Lamps and lanterns of glass and tin or other metal	1963	12th Oct. 1793	{ Joseph Lucas. William Baylis.
Lamps for streets, houses, shops, and other purposes	2052	30th May 1795	William Baylis.
Lamps - - - - -	2156	23rd Jan. 1797	Richard Morton.
Lamp or light for lighting chambers, rooms, } halls, &c. - - - - - }	2406	26th May 1800	{ Joseph Gaston. John Baptiste DeThiville.
Lamps - - - - -	2654	30th Oct. 1802	{ James Smethurst. Nicholas Paul.
Lamp or lantern - - - - -	2661	25th Nov. 1802	Thomas Dawson.
Argand lamps - - - - -	2743	19th Nov. 1803	George Penton.
Lamp upon a new construction - - - - -	2766	30th May 1804	John Porter.
Lamps - - - - -	2903	23rd Jan. 1806	George Barton Alcock.
Construction of lamps - - - - -	3154	26th Nov. 1808	Charles Seward.
Street and hall lamp - - - - -	3221	29th March 1809	Elizabeth Perryman.
Street lamp - - - - -	3251	26th July 1809	Charles Seward.
Lamps with wicks constantly supplied with oil from a reservoir below the frame.	3272	2nd Nov. 1809	John Barton.
Airtight agitable lamp - - - - -	3274	9th Nov. 1809	Edward Griffith.
Lamps - - - - -	3411	11th March 1811	James Smethurst.
Lamp - - - - -	3415	14th March 1811	George Ferguson.
Improvements in or additions to lamps, for rendering the illumination more soft and agreeable to the eye.	3471	3rd Aug. 1811	Peter Durand.
Lamps, and method of using oil and wick therein -	3557	28th April 1812	Graham Chappell.
Construction of coach lamps and other lamps -	3579	25th June 1812	Benjamin Black.
Construction of lamps; "Palmer's Birmingham economic lamps."	3582	16th July 1812	John Simpson.
Lamps for lighting cities, towns, &c. - - -	3657	3rd March 1813	Sir Thomas Cochrane.
Fire-pan or fire-lamp in which small coals can be consumed.	3783	21st Feb. 1814	John Buddle.
Lamps and lanterns - - - - -	4100	6th Feb. 1817	James Atkinson West.
Lamp constructed to consume a less quantity of oil than other lamps, and give a continued light of almost unvaried brilliancy; "The economical and universal lamp."	4228	19th Feb. 1818	Thomas Allingham.
Increasing and projecting light produced by lamps or by other means.	4270	2nd June 1818	William Lester.
Lamps for domestic purposes - - - - -	4366	30th June 1819	Nicholas Conne.
Portable lamps or lanterns applicable to various purposes.	4428	15th Jan. 1820	John Leberecht Steinhäuser.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Carriage lamps and other lamps [ <i>with a reflector which may be turned round instantly</i> ].	4438	10th March 1820	William Collins.
Lamp; "Sinumbra" - - - - -	4475	15th June 1820	Samuel Parker.
Construction of lamps [ <i>for streets</i> ] - - -	4476	17th June 1820	William Erskine Cochrane.
Construction of lamps - - - - -	4733	10th Dec. 1822	Samuel Parker.
Construction of lamps or lanterns so as to protect the light from wind or motion [ <i>by making the air passages zigzag</i> ].	4947	5th May 1824	John Crosley.
Carriage lamps - - - - -	4968	25th May 1824	Benjamin Black.
Lamps [ <i>table lamp</i> ] - - - - -	5214	16th July 1825	Joseph Farey.
Apparatus for the burning of oil and other inflammable substances [ <i>table lamp on the pneumatic principle</i> ].	5425	8th Dec. 1826	Thomas Machell.
Manufacture of lamps [ <i>table lamps</i> ] - - -	5434	20th Dec. 1826	Thomas Quarrill.
Construction of lamps - - - - -	5458	1st Feb. 1827	Samuel Parker.
Safety lamps - - - - -	5571	4th Dec. 1827	Thomas Bonner.
Lamp - - - - -	5948	29th June 1830	Samuel Parker.
Lamps; "Parlour's improved table lamp" - -	6050	13th Dec. 1830	Samuel Parlour.
Lamps - - - - -	6175	4th Oct. 1831	Daniel Dunscomb Bradford.
Lamp - - - - -	6230	23rd Feb. 1832	Ralph Watson.
Lamps - - - - -	6551	6th Feb. 1834	George Alexander Miller.
Lamps - - - - -	7009	18th Feb. 1835	Henry Martinson Robinson.
Construction of lamps - - - - -	7265	21st Dec. 1835	George Houghton.
Lamps - - - - -	7508	9th Dec. 1837	Jeremiah Bynner.
Lamps, or apparatus for producing or affording light.	7576	24th Feb. 1838	Ambroise Ador.
Lamps - - - - -	7649	22nd May 1838	John Ratcliff.
Lamps and apparatus connected therewith - -	7682	12th June 1838	Samuel Parker.
Lamps - - - - -	7726	10th July 1838	William Palmer.
Lamps, or apparatus for producing or affording light.	7803	13th Sept. 1838	Ambroise Ador.
Manufacture of lamps - - - - -	7833	17th Oct. 1838	Henry Meyer.
Lamps - - - - -	7906	17th Dec. 1838	Edwin Edward Cassell.
Lamps - - - - -	8084	1st June 1839	William Palmer.
Lamps - - - - -	8446	25th March 1840	Henry Smith.
Lamps - - - - -	8468	13th April 1840	Thomas Young.
Lamps - - - - -	8486	28th April 1840	{ William Crane Wilkins. Matthew Samuel Kendrick.
Lamps - - - - -	8766	31st Dec. 1840	William Henry Kempton.
Lamps - - - - -	9024	9th July 1841	Thomas Young.
Manufacture of lantern leaves from horn; construction of horn lanterns.	9148	9th Nov. 1841	John Burnell.
Construction of lamps - - - - -	9173	9th Dec. 1841	Josiah Taylor.
Lamps - - - - -	9368	28th May 1842	William Young.
Construction of lamps - - - - -	9369	31st May 1842	Philip Jacob Kayser.
Construction of lamps - - - - -	9446	15th Aug. 1842	George Roberts.
Manufacture of lamps - - - - -	9969	14th Dec. 1843	William Young.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Manufacture of lamps - - - - -	10,120	25th March 1844	{ John Harcourt Quincey. John Johnston.
Lamps - - - - -	10,583	24th Feb. 1845	John Baptiste Vallauri.
Construction of lamps and apparatus to be used therewith.	10,538	3rd March 1845	George Miller Clarke.
Lamps - - - - -	10,619	15th April 1845	James Williamson Brook
Manufacture of lamps - - - - -	10,695	3rd June 1845	William Palmer.
Lamps - - - - -	10,700	3rd June 1845	John Davis.
Construction of lamps - - - - -	10,842	2nd Oct. 1845	George Roberts.
Lamps - - - - -	11,187	30th April 1846	Joseph Touche.
Lamps - - - - -	11,253	22nd June 1846	William Mathers Hall.
Lamps - - - - -	11,284	6th July 1846	William McGary.
Construction of lamps to burn oil - - - - -	11,398	8th Oct. 1846	Samuel Heseltine.
Lamps and apparatus connected therewith	11,429	29th Oct. 1846	William Crane Wilkins.
Improvements partly applicable to lamps	11,612	10th March 1847	James Stevens.
Lamps - - - - -	11,623	16th March 1847	Jean Joseph Hazard Petit
Lamps - - - - -	11,734	7th June 1847	Richard Clark.
Lamps - - - - -	11,778	3rd July 1847	George Alexander Miller.
Construction of lamps - - - - -	11,980	11th Nov. 1847	Charles Blachford Mansfield.
Lamps - - - - -	12,015	5th Jan. 1848	Read Holliday.
Lamps - - - - -	12,305	2nd Nov. 1848	Richard Bright.
Construction of lamps - - - - -	12,390	28th Dec. 1848	{ George Fergusson Wilson Charles Humfrey.
Safety and other lamps - - - - -	12,458	8th Feb. 1849	Henry Headley Parish.
Miners' lamps - - - - -	12,489	28th Feb. 1849	Benjamin Biram.
Lamps - - - - -	12,513	14th March 1849	James Williamson Brook.
Lamps - - - - -	12,692	4th July 1849	William Bush.
Lamps - - - - -	12,743	16th Aug. 1849	Jonathan Blake.
Manufacture of lamps - - - - -	12,910	29th Dec. 1849	William Palmer.
Lamps - - - - -	12,985	11th Feb. 1850	Read Holliday.
Lamps - - - - -	13,003	11th March 1850	William Crane Wilkins.
Lamps - - - - -	13,018	23rd March 1850	John Gedge.
Oil-lamps - - - - -	13,787	9th Oct. 1851	Henry Briggs.
Manufacture of lamps - - - - -	13,887	31st Dec. 1851	{ George Gwynne. George Fergusson Wilson.
Lamps - - - - -	13,958	9th Feb. 1852	Auguste Neuberger.
Lamps and burners - - - - -	14,180	8th June 1852	William Rettie.
Construction of lamps - - - - -	14,170	17th June 1852	Thomas Restell.
Lamps - - - - -	14,183	24th June 1852	Joseph Hart Mortimer.
<b>III.—Lamps—[Spirit, Gas, and Candle.]</b>			
Luminators or a new kind of lights, being an improvement on all sorts of candles except dipped tallow, and is also an improvement in flambeaux, and on candle-moulds, sockets, stands, and other apparatus for making and using luminators.	1587	1st Feb. 1787	John Donaldson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Proctor's spiral argand and candle lamp - - -	3215	9th March 1809	William Proctor.
Making street lamps adapted for the combustion of purified oil of tar; arrangement of parts of lamps, rendering <i>them</i> also capable of producing a clear light by the combustion of the said oil; the use thereof in such lamps.	4241	8th April 1818	Sir Thomas Cochrane, Knt.
Portable gas-lamp - - - - -	4381	19th June 1819	{ David Gordon. Edward Heard.
Construction of lamps [for burning alcohol, naphtha, } and essential oils, the wick of metal or glass - }	4638	14th Jan. 1822	{ Alexander Gordon. David Gordon.
Construction of lamps whereby they are rendered capable of burning concrete oils, animal fat, and other similar inflammable substances.	4651	22nd Feb. 1822	William Erskine Cochrane.
Construction of portable gas-lamps - - - -	4940	14th April 1824	David Gordon.
Gas-lamp or burner - - - - -	5807	2nd July 1829	{ Thomas Kilby. Hugh Ford Bacon.
Lamp for burning substances not hitherto usually burned in such vessels or apparatuses.	6537	4th Jan. 1834	Joshua Taylor Beale.
Construction of gas-lamps so as to produce a better combustion of the gas.	6868	28th July 1835	Henry Bernard Chausenet.
Lamp for burning substances not hitherto usually burned in such vessels.	7501	7th Dec. 1837	Joshua Taylor Beale.
Lighting [candle and gas lamps] - - - -	7675	7th June 1838	{ John Coope Haddan. John Johnson.
Apparatus for and means of burning concrete fatty matters; "Albion lamp."	8618	7th Sept. 1840	Thomas Motley.
Apparatus for burning oils, tallow, and gas - -	8621	10th Sept. 1840	Samuel Parker.
Construction of candle-lamps - - - -	9276	4th March 1842	William Palmer.
Lamps and burners for combustion of volatile liquids.	9772	10th June 1843	William Edward Newton.
Lamp for combustion of naphtha, turpentine, and other resinous oils.	9908	30th June 1843	Charles Kurtz.
Construction of lamps for combustion of naphtha, turpentine and other resinous oils.	10,025	27th Jan. 1844	Robert Johnstone.
Consuming tallow and other fatty matters in } lamps - - - - - }	10,177	7th May 1844	{ Alfred Toy. Edward Hanson.
Spirit-lamps - - - - -	10,788	29th July 1845	John Henry Roberts.
Improvements applicable to candle-lamps - -	11,212	19th May 1846	Stephen Perry.
Manufacture of lamps [candle-lamps] - - -	11,377	17th Sept. 1846	William Palmer.
Production and manufacture of artificial light [lamps for burning essential oils].	11,696	7th May 1847	Isham Baggs.
Effecting the combustion of oil and camphine, and other substances burned for the production of light.	11,780	3rd July 1847	John Hunt.
Production of light; apparatus to be used there-with [lamps].	12,192	24th June 1848	Henry Archer.
Candle lamps and other lamps - - - -	12,194	26th June 1848	Richard Clark.
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [argand candle-lamp].	12,491	28th Feb. 1849	Henry Crosley.
Manufacture of candle-lamps - - - -	12,564	16th April 1849	James Childs.
Lamps or burners for consuming a vegetable fluid [wood tar spirit, oil of turpentine, and naphtha].	13,048	18th April 1850	Abraham Moses Marbe.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Lighting [ <i>candle-lamps</i> ] - - - - -	13,922	27th Jan. 1852	Edward Simons.
Candle-lamp - - - - -	14,170	17th June 1852	Thomas Restell.
Manufacture of candle-lamps - - - - -	14,264	19th Aug. 1852	William Palmer.
Producing artificial light [ <i>electric lamp</i> ] - - -	14,330	21st Oct. 1852	Edward Henry Jackson.
<b>IV.—Lamp Appendages—[Burners, Reflectors, Pillars, &amp;c.]</b>			
Casting and spreading light by a new and unusual figure of foiled glass, polished without grinding pipes of glass to hold candles or lamps.	167	18th Nov. 1675	Richard Reeves.
Glasses for improvement of ships' lanterns, light-houses, dispersing light in mines, &c.	282	27th Feb. 1684	Edward Wyndus.
Forming glasses into conical figures and lamps, for better dispersion of light.	372	29th July 1704	Richard Cole.
Making pedestals or supporters for lamps, candle-sticks, girandoles, chandeliers, épergnes, watches, vases or urns, of various materials, and variously ornamented.	1287	28th March 1781	William Parker.
Making burners and glass lenses - - - - -	1831	18th Oct. 1791	James Smethurst.
Burners and frames with lens glasses - - - - -	1963	12th Oct. 1793	{ Joseph Lucas. William Baylis.
Plate and hoop or band to be used in the mounting of glass chandeliers, girandoles, and lustres.	2153	23rd Dec. 1796	Moses Lafount.
Lamp-burner - - - - -	2450	15th Nov. 1800	{ John White. James Smethurst.
Reflectors - - - - -	2654	30th Oct. 1802	{ James Smethurst. Nicholas Paul.
Improvement upon the air-lamp, the properties whereof consist in reflecting a more general and stronger light by means of certain valves and a newly constructed burner.	2720	29th June 1803	Edward Warner, junior.
Street lamp and burner, and lantern-head for street and other lamps and lanterns.	3251	26th July 1809	Charles Seward.
Manufacturing glass or paste drops for chandeliers, lamps, and lustres. }	3359	5th July 1810	{ William Shakespear. Thomas Osler.
Burner applicable to all kinds of lamps - - - - -	3380	26th Sept. 1810	{ Richard Seaton. Thomas Rice.
Appendages to lamps - - - - -	3415	14th March 1811	George Ferguson.
Manufacturing glass icicles, spangles, &c., with loops of the same material.	4066	30th Sept. 1816	John Aston Wilkes.
Making portable machines to be placed on a desk or table to support a silk shade for protection of the eyes [ <i>reading-shade</i> ].	4440	18th March 1820	Frederic Mighella Van Heythusen.
Gas-consumer, for consuming the smoke from gas-burners and lamps.	4977	15th June 1824	William Bailey.
Lighting by gas [ <i>chimney for a lamp</i> ] - - - - -	5133	25th March 1825	Richard Witty.
Chimney for argand and other burners [ <i>formed as a ball or conical tube</i> ].	5227	30th July 1825	Richard Witty.
Shades for lamps and other lights - - - - -	5441	21st Dec. 1826	Valentine Bartholomew.
Apparatus for effecting the more complete combustion of candles, and superseding the necessity of snuffing [ <i>apparatus to place on the top of a candle</i> ].	7539	13th Jan. 1838	Richard Bright.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Construction of glass holders and glass chimneys of gas-burners.	7868	10th Nov. 1838	Hugh Ford Bacon.
Apparatus to be applied to the chimneys of gas and other burners or lamps, to increase combustion.	8314	16th Dec. 1839	Samuel Walter Faxon.
Apparatus to be applied to lamps to carry off heat and the products of combustion.	8695	10th Nov. 1840	John Joseph Mechi.
Manufacture of glass chimneys for lamps - - -	8706	19th Nov. 1840	James Deacon.
Production and diffusion of light [ <i>chimneys and shades for lamps</i> ].	8902	25th March 1841	Goldsworthy Gurney.
Manufacturing papier-mâché, pearl, china, ivory, horn, wood, and composition, into pillars and stands for lamps and other articles of domestic furniture.	8972	27th May 1841	Joseph Betteridge.
Burners - - - - -	9195	21st Dec. 1841	William Edward Newton.
Apparatus to be applied to the glass chimneys of gas-burners.	9198	21st Dec. 1841	George Palmer Henry.
Manufacture of shades for lamps and other lights -	10,120	25th March 1844	{ John Harcourt Quincey. { John Johnston.
Construction of apparatus to be used with lamps -	10,538	3rd March 1845	George Miller Clarke.
Manufacture of lamps, shades, or chimneys - -	10,695	3rd June 1845	William Palmer.
Lamp glasses and shades - - - - -	11,264	6th July 1846	William M'Gary.
Manufacture of gas and other pillars - - -	11,377	17th Sept. 1846	William Palmer.
Lamp-burners - - - - -	11,421	22nd Oct. 1846	Etienne Abram Maccaud.
Lamps and apparatus connected therewith [ <i>gas-burners</i> ].	11,429	29th Oct. 1846	William Crane Wilkins.
Improvements partly applicable to burners - -	11,612	10th March 1847	James Stevens.
Combustion of gas for the purposes of light [ <i>glasses of gas-burners</i> ].	11,630	22nd March 1847	John Leslie.
Burners - - - - -	11,734	7th June 1847	Richard Clark.
Construction of burners - - - - -	11,960	11th Nov. 1847	Charles Blachford Mansfield.
Burners for obtaining light and heat, and apparatus to be used therewith.	12,053	8th Feb. 1848	Richard Clarke Burleigh.
Production of light; apparatus to be used therewith [ <i>chimneys and shades</i> ].	12,192	24th June 1848	Henry Archer.
Reflectors - - - - -	12,320	7th Nov. 1848	William Henry Kempton.
Manufacture of lamp pillars - - - - -	12,480	14th Feb. 1849	Richard Ford Sturges.
Reflectors for luminaries - - - - -	13,079	22nd May 1850	Jules Frederic Maillard Dumeste.
Manufacture of reflectors - - - - -	13,624	7th May 1851	Thomas Robert Mellish.
Apparatus for reflecting light into rooms and other parts of buildings and places.	13,955	3rd Feb. 1852	Robert Hesketh.
Lamp glasses [ <i>by the application of convex lenses</i> ] -	14,083	22nd April 1852	James Stevens.
Construction of burners - - - - -	14,170	17th June 1852	Thomas Restell.
<b>V.—Supplying and regulating Lamps.</b>			
Supplying branches, sconces, and lamps with oil -	993	2nd July 1771	James Heriot.
Raising supply of oil to lamps - - - - -	1585	29th Jan. 1787	Pe'er Keir.
Raising oil in lamps to supply the wick - - -	1627	6th Nov. 1787	Thomas Henry Stokes.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Supplying tubes or lamps with oil so as to remove the shade of the vessel containing the oil; "Proctor's spiral argand and candle lamp."	3215	9th March 1809	William Proctor.
Regulating atmospheric pressure in lamps, globes, and other transparent cases; supplying combustible matter to flames, and preserving uniform intensity of light.	3772	24th Dec. 1813	Sir Thomas Cochrane.
Conveying gas to chandeliers, lustres, and lamps -	4100	6th Feb. 1817	James Atkinson West.
Mode of employing oil and spirits in lamps and other luminous apparatus.	4268	24th Aug. 1818	Thomas Machell.
Method of conveying gas for illumination to the burners, and at the same time suspending the burners or the lamps, lustres, or other frames or holders in which the burners are placed.	4341	9th Feb. 1819	James Simpson.
Lamp [in which the oil is raised by compressed air] -	5516	4th July 1827	René Florentin Jenar.
Lamps [oil raised by a column of fluid] - - -	5557	6th Nov. 1827	James Smethurst.
Argand and other lamps [admitting air and regulating the supply of oil] - - - - -	5567	24th Nov. 1827	{ John Roberts. George Upton.
Producing parallel motion to the piston-rods of pumps, for lamps and other purposes;—also applicable to machinery in general where parallel motion is required.	7314	4th March 1837	Thomas Bradshaw Whitfield.
Lamps [causing the oil to ascend] - - - -	7320	10th March 1837	Charles William Celarier.
Apparatus for supplying atmospheric air in the production of light.	8003	15th March 1839	Richard Lamb.
Applying air to lamps - - - - -	8689	7th Nov. 1840	George Halpin, junior.
Lamps; supplying air and heat thereto for the support of combustion.	9195	21st Dec. 1841	William Edward Newton.
Lustres, chandeliers, pendants, and apparatus connected therewith, to be used with oil and other substances;—applicable to other purposes [raising and lowering gas and other lamps].	9675	24th March 1843	Andrew Barclay.
Raising and lowering gas and other lamps, lustres, and chandeliers.	10,956	18th Nov. 1845	John Finlay.
Construction of lamps and burners [raising the wicks].	14,170	17th June 1852	Thomas Restell.
<b>VI.—Chandeliers, Lustres, and Sconces.</b>			
Making sconces - - - - -	915	6th Feb. 1769	Joachim Smith.
Chasing girandoles in lead, - - - - -	1068	14th April 1774	William Storer.
Chandelier girandole lustre, - - - - -	1422	12th March 1784	John Barrett.
Making girandoles with sliding pillars, comprising the advantage of an extinguisher - - - }	2156	23rd Jan. 1797	{ Anthony George Eckhardt. Richard Morton.
Making portable sconces or branches - - -	3489	14th Sept. 1811	George Kitchen.
Candelabras - - - - -	3533	4th Feb. 1812	John Leberecht Steinhäuser.
Chandeliers and lustres - - - - -	4100	6th Feb. 1817	James Atkinson West.
Construction of glass and metal chandeliers, and other articles for ornamental lighting [formed of prisms, for the purpose of reflecting prismatic colours].	5870	10th Nov. 1829	Thomas Osler.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Lustres, chandeliers, pendants, and apparatus connected therewith, to be used with oil and other substances;—applicable to other purposes.	9675	24th March 1843	Andrew Barclay.
Sliding gas pendants, lustres, and chandeliers -	11,253	22nd June 1846	William Mathers Hall.
<b>VII.—Candlesticks.</b>			
Candlesticks and rings to be made wider or closer as required.	484	12th Aug. 1721	Isaac de la Chaumette.
Instrument which being made to represent a candle and candlestick, keeps the surface of a column of oil contained therein at nearly an equal distance from the blaze, and renders the light given by oil steady, and is also as portable, cleanly and convenient as candles of tallow or wax.	874	29th April 1767	Bryan Higgins.
Nosles and candlesticks - - - - -	892	29th Feb. 1768	Christopher Pinchbeck.
Making candlesticks - - - - -	915	6th Feb. 1769	Joachim Smith.
Candlestick with a screw nosle to raise or lower the candle at pleasure.	1241	17th Dec. 1779	Edmund Greaves.
Candlestick with a socket or nosle to fit candles without using paper, and which may be applied to candlesticks already made.	1441	3rd July 1784	John Richmond.
Candlesticks and nosles for sconces, chandeliers, girandoles, and other things used for holding candles.	1467	26th Feb. 1785	James Tate.
Making candlesticks of white metal plated with silver.	1722	15th Jan. 1790	Samuel Roberts.
Making candlesticks with sliding pillars, comprising the advantage of an extinguisher - - - }	2156	23rd Jan. 1797	{ Anthony George Eckhardt Richard Morton.
Working, adjusting, supporting, and fixing slide table candlesticks, of silver, silver plated, or other metal.	2210	23rd Jan. 1798	Samuel Roberts.
Making candlestick nosles - - - - -	2263	30th Oct. 1798	Samuel Roberts.
Candlesticks which will receive and hold firmly candles of various sizes.	2395	1st May 1800	William Raybould.
Certain additions to and improvements in a sort of candlestick in common use, which will be found to prevent accidental fires in the use of candles.	2862	2nd July 1805	William Kent.
Candlesticks, and mode of burning candles therein -	3572	2nd June 1812	Leger Didot.
Socket for candlestick, with springs to hold the candle.	3709	26th June 1813	Charles Goodwin.
Apparatus for the more safe, pleasant, and economical use of candles; also apparatus now in use for part of the same ends.	4121	17th May 1817	Robert Salmon.
Construction of candlesticks or lamps - - -	4621	27th Nov. 1821	Thomas Motley.
Making candlesticks or apparatus for holding candles.	6814	29th Sept. 1832	William Palmer.
Construction of candlesticks - - - - -	8049	25th April 1839	James Barlow.
Apparatus for fastening candles in candlesticks -	8986	12th June 1841	George Claudius Ash.
Candlesticks and other candle-holders - - -	9005	25th June 1841	{ John Lee Stevens. John King.
Construction of candlesticks - - - - -	9316	7th April 1842	Thomas Clive.
Manufacture of candlesticks and apparatus connected therewith.	9342	9th May 1842	Francis Prime Walker.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Candlesticks - - - - -	9368	28th May 1842	William Young.
Candlesticks; apparatus and instruments employed in the use of candles and rushlights - - - }	9525	25th Nov. 1842	{ Frederick Oldfield Ward. Mark Freeman.
Candlesticks - - - - -	10,119	22nd March 1844	John Butt.
Machinery for making candlestick pans and other articles produced by stamping; machinery for making sockets or tubes for candlesticks.	11,197	5th May 1846	William Church.
Manufacture of candlesticks - - - - -	11,377	17th Sept. 1846	William Palmer.
Candlesticks - - - - -	11,734	7th June 1847	Richard Clark.
Making candlesticks - - - - -	11,758	19th June 1847	Samuel Keeling.
Manufacture of hooks and eyes and other fastenings [candle-fastener, with a saveall].	12,009	31st Dec. 1847	Mary Jenkins.
Manufacture of candlesticks - - - - -	12,490	14th Feb. 1849	Richard Ford Sturge.
Candlesticks - - - - -	13,003	11th March 1850	William Crane Wilkins.
Candlesticks - - - - -	13,018	23rd March 1850	John Gedge.
Apparatus to be used when burning candles - -	13,433	28th Dec. 1850	William Henry Jones.
Application of plain or ornamental glass, alone or in combination, to new purposes of construction or manufacture [tubular candlesticks].	13,458	16th Jan. 1851	Robert Cogan.
Lighting [candlesticks] - - - - -	13,822	27th Jan. 1852	Edward Simons.
<b>VIII.—Snuffers and Extinguishers.</b>			
Steel candle-snuffers and stand - - - - -	639	31st Jan. 1749	Benjamin Cartwright.
Addition to snuffers - - - - -	1119	14th March 1776	Christopher Pinchbeck.
Snuffers that will not drop the wick - - -	1189	16th Sept. 1777	John Trusler.
Making self-acting snuffers - - - - -	2526	10th July 1801	John Wilkes.
Apparatus for trimming and cleansing lamps -	3221	29th March 1809	Elizabeth Perryman.
Instrument for cutting the wick of a lighted candle, and keeping the same in trim and of a proper length.	3244	15th June 1809	George Alexander Thompson.
Snuffers - - - - -	3288	14th Dec. 1809	John Duff.
Lever for making snuffers act without springs -	3392	26th Sept. 1810	Samuel Hobday.
Method of producing steel toys, such as barbers' curling-irons, sugar nippers, snuffers, and other articles.	3407	6th March 1811	Abraham Willis.
Snuffers - - - - -	3572	2nd June 1812	Leger Didot.
Self-extinguisher, to be fixed to candlesticks, chandeliers, lustres, branch lamps, or lanterns, by which the light may be extinguished at any time the person using it may wish.	3709	26th June 1813	Charles Goodwin.
Principle for making snuffers without spring or lever.	4295	1st Oct. 1818	Samuel Hobday.
Manufacture of snuffers - - - - -	4566	3rd July 1821	James Simpson.
Manufacture of snuffers - - - - -	4596	18th Oct. 1821	Thomas Lees.
Extinguishers to candles, and application of such extinguishers to candles and candlesticks.	6855	3rd July 1835	Thomas Walker.
Snuffers - - - - -	7287	19th Jan. 1837	Henry Needham Scrope Shrapnel.
Snuffers - - - - -	8311	5th Sept. 1839	Charles Greenway.
Shears and other apparatus for cutting, cropping, and shearing certain substances [for snuffing candles].	9110	7th Oct. 1841	Thomas Wells Ingram.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LIGHT AND LIGHTING, &amp;c.—continued.</b>			
Apparatus for regulating and extinguishing light -	9330	26th April 1842	Septimus Cocking.
Manufacture of candlesticks, and apparatus connected therewith [ <i>snuffers</i> ].	9342	9th May 1842	Francis Prime Walker.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>making earthenware candlesticks, with match-boxes</i> ].	11,149	25th March 1849	Charles Smith.
<b>IX.—Matches; Instantaneous Light and Fire; Tinder-boxes.</b>			
Construction of tinder-boxes - - - - -	2907	12th Feb. 1806	John Phillips.
Machine for producing instantaneous fire and light	3007	5th Feb. 1807	Richard Lorentz.
Construction of the instantaneous light machine -	3470	31st July 1811	Matthew James Mayer.
Instrument for generation of fire, for various purposes in chemical and experimental operations.	3485	9th Sept. 1811	Michael Logan.
Producing instantaneous light [ <i>a match ignited by chemical agency</i> ].	3732	10th Dec. 1828	Samuel Jones.
Apparatus for producing instantaneous light; means and mechanism employed in the manufacture of the same.	6295	10th Aug. 1832	William Newton.
Apparatus or parts of apparatus for producing instantaneous light.	6335	20th Nov. 1832	Samuel Jones.
Means of producing instantaneous ignition - -	7169	11th Aug. 1836	William Newton.
Machinery for cutting splints for matches - -	8297	4th Dec. 1839	James Mayer.
Machinery for splitting and shaping wood into splints for manufacturing matches, also into other similar forms.	9295	14th March 1842	Reuben Partridge.
Apparatus for containing matches used for obtaining instantaneous light.	9579	29th Dec. 1842	Henry Samuel Rush.
Manufacture of matches for obtaining instantaneous light.	10,631	22nd April 1845	Charles Mather Barker.
Match-boxes for the production of instantaneous light; machinery for manufacturing the same.	10,768	12th July 1845	Thomas Russell Crampton.
Instruments for producing ignition [ <i>match-boxes</i> ] -	11,033	12th Jan. 1846	Henry Schloss.
Means of ignition and illumination [ <i>by electricity</i> ] -	11,076	7th Feb. 1846	{ William Greener. William Edward Staite.
Show-cards and holders for matches, pens, pins, needles, and other articles; manufacturing the same [ <i>boxes of metal for holding matches, &amp;c.</i> ]	12,146	4th May 1848	Alexander Southwood Stocker.
Matches - - - - -	12,192	24th June 1848	Henry Archer.
Matches or similar articles for igniting combustible bodies; manufacturing the same, and machinery for the purpose; match and other boxes, and machinery for manufacturing such boxes.	12,469	12th Feb. 1849	Jarvis Palmer.
Preparing wood for matches - - - - -	12,573	17th April 1849	William Hyde Knapp.
Manufacture of boxes for matches and for other purposes.	12,721	1st Aug. 1849	William Geeves.
Machinery for placing splints of wood, also wax and composition tapers, in frames for dipping.	13,206	31st July 1850	John Hynam.
Apparatus used when obtaining instantaneous light -	13,872	19th Dec. 1851	Rodolphe Helbronner.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LOCKS, BOLTS, KEYS, AND OTHER FASTENINGS ; LOCK FURNITURE ; DOOR KNOBS.</b>			
Engine for making iron bolts - - - -	207	24th Feb. 1679	Thomas Harvey.
Lock and latch to be affixed to a door for the purpose of raising it from the floor over a carpet, or to give air to a room without opening the door.	1071	27th May 1774	George Black.
Locks - - - - -	1200	31st Oct. 1778	Robert Barron.
Apparatus to act as a universal lock or bolt - -	1226	28th May 1779	Solomon Henry.
Formation and construction of locks and latches so as to prevent their being picked, and to exclude dust.	1247	4th March 1780	John Campion.
Solid warded lock and key, to be applied to locks to prevent them being picked.	1317	18th Jan. 1782	Samuel Hutchinson.
Locks for doors, cabinets and other things on which locks are used [ <i>without wheels or ward</i> ].	1430	23rd April 1784	Joseph Bramah.
Hanging and fixing night-bolts and door-latches -	1636	15th Jan. 1788	James Angell.
Locks and keys - - - - -	1692	7th July 1789	Thomas Cornthwaite.
Construction of locks and other fastenings - -	1730	23rd Feb. 1790	Thomas Rowntree.
Guarded lock or bolt or box, applied to the bolt for the greater security of door and other locks.	1773	29th Oct. 1790	Moses Bird.
Locks acting by lever, toothed-wheel and drop, chiefly without springs, simple in principle, and not liable to be injured by action or friction ;— applicable to prisons and other places where strong fastenings are requisite.	1819	19th July 1791	Robert Ferryman.
Locks, latches and bolts, that strike and catch by means of a spring.	1835	3rd Nov. 1791	John Antes.
Construction of locks - - - - -	2062	28th Aug. 1795	James Spears.
Locks for doors; lock springs - - - - -	2203	18th Nov. 1797	Daniel Langton.
Locks for doors, cabinets, &c. and keys for the same	2232	3rd May 1789	Joseph Bramah.
Construction of locks - - - - -	2277	8th Dec. 1798	Thomas Turner.
Double-chambered lock, with cylinders to which pins are affixed instead of wards.	2306	11th April 1799	George Davis.
Locks and fastenings for general uses - - -	2521	24th June 1801	Samuel Hølemberg.
Locks and keys - - - - -	2851	18th May 1805	Abraham Ogier Stansbury.
Lock which acts in a perpendicular and then in a horizontal direction, with springs and tumblers, one part being at liberty whilst the other is in motion, the bolts of which lock return into the body thereof when it is unlocked.	3188	29th Dec. 1808	William Tompson.
Making lock-furniture and knobs - - - -	3548	14th March 1812	John Loach.
Improving and applying locks - - - - -	3676	30th March 1813	Joseph Egg.
Lock and key ;—applicable to various other purposes - - - - -	3891	7th March 1815	{ William Mitchell. John Lawton.
Lock for fastening doors, gates, drawers, desks, trunks, boxes, portmanteaus, and other things.	4027	14th May 1816	Thomas Ruxton.
Manufacturing locks and keys - - - - -	4036	27th May 1816	Robert Kemp.
Locks - - - - -	4096	1st Feb. 1817	George Montague Higginson.
Safeguard to locks - - - - -	4101	8th Feb. 1817	William Clark.
Construction of locks - - - - -	4219	3rd Feb. 1818	Jeremiah Chubb.
Locks - - - - -	4275	30th June 1818	Albert Roux.

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<b>LOCKS, &amp;c.—continued.</b>			
Construction of locks and latches - - - -	4402	18th Oct. 1819	Anthony Radford Strutt.
Lock or fastening for general use - - - -	4443	11th April 1820	Henry Constantine Jennings.
Locks applicable to doors and to other purposes -	4519	14th Dec. 1820	William Mallet.
Bolt or fastening [for doors, &c.] - - - -	4675	4th June 1822	Henry Septimus Hyde Wollaston.
Construction of locks and other fastenings - -	4812	10th July 1823	Stephen Fairbanks.
Construction of locks and other fastenings - -	4862	13th Nov. 1823	John Ward.
Construction of locks - - - - -	4972	15th June 1824	Charles Chubb.
Construction of locks for doors and for other purposes [with a rotary and a lever tumbler].	5171	14th May 1825	John Young.
Construction of latches which may be used for fastening doors or gates.	5656	17th May 1828	Charles Chubb.
Making door handles and knobs, key hole escutcheons, door and window shutter finger plates, knobs and handles, from horns and hoofs of animals - - - - -	5753	14th Jan. 1829	{ James Deakin. Thomas Deakin.
Locks and keys - - - - -	5798	1st June 1829	Andrew Gottlieb.
Locks and other securities applicable to doors and to other purposes - - - - -	5880	18th Jan. 1830	{ James Carpenter. John Young.
Spring latch or fastens for doors - - - - -	5886	26th Jan. 1830	John Arnold.
Combination of mechanism to be used by itself, or applied to locks and other fastenings.	6105	14th April 1831	William Rutherford.
Locks and other spring fastenings for doors and other places.	6116	23rd May 1831	George Barnard.
Locks and latches, with regard to the security of the same, and construction of the exterior and interior parts thereof.	6143	27th July 1831	John Young.
Locks for doors and for other purposes - - -	6350	20th Dec. 1832	Thomas Parsons.
Locks for fastenings - - - - -	6516	3rd Dec. 1833	Thomas Parsons.
Locks used for fastening and security - - -	6527	20th Dec. 1833	{ Charles Chubb. Ebenezer Hunter.
Construction of locks, bolts, and latches, to be attached to doors and other situations requiring a strong fastening.	6532	20th Dec. 1833	Josiah Gilbert Pierson.
Lock or fastening for doors and for other situations where security is required.	6674	6th Sept. 1834	William Longfield.
Lock protector, as a substitute for or to be attached to locks or other fastenings.	6694	11th Oct. 1834	Lord Baron Audley.
Door and other locks, and staples used therewith -	6792	18th March 1835	Richard Hill.
Lock and key - - - - -	6960	16th Dec. 1835	John Warwick.
Construction of locks and latches for doors, gates, and other like purposes.	7000	10th Feb. 1836	Samuel Fenton.
Locks for fastenings - - - - -	7715	30th June 1838	Matthew Uzielli.
Additions to locks or fastenings for doors of buildings and of cabinets, and for drawers, chests, and other receptacles.	7872	13th Nov. 1838	Sally Thompson.
Locks or fastenings - - - - -	7972	21st Feb. 1839	Matthew Uzielli.
Lock and key - - - - -	8100	12th June 1839	Joseph Sanders.
Lock - - - - -	8140	3rd July 1839	Alexander Cochrane.
Construction of locks - - - - -	8163	20th July 1839	John Charles Schwieso.
Lock and key - - - - -	8181	1st Aug. 1839	William Morrett Williams.
Locks and other fastenings - - - - -	8293	2nd Dec. 1839	James Guest.



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<b>LOCKS, &amp;c.—continued.</b>			
Lock and key - - - - -	8402	27th Feb. 1840	William Morrett Williams.
Locks, keys and other fastenings for doors, drawers, and other such purposes.	8440	20th March 1840	Francis William Gerish.
Construction of locks and keys - - - - -	8489	2nd May 1840	William Pierce.
Locks, latches, and other fastenings for doors -	8543	13th June 1840	{ Joseph Wolverson. William Rawlett.
Construction of locks, latches and other fastenings, applicable for securing doors, gates, windows, shutters, and such like purposes.	8666	22nd Oct. 1840	Thomas Clark.
Locks and fixings, and fastenings thereto belonging	8747	23rd Dec. 1840	Benjamin Baillie.
Locks - - - - -	8903	29th March 1841	{ James Tildesley. Joseph Sanders.
Manufacture of locks, keys, latches and other fastenings.	8953	6th May 1841	James Hancock.
Construction of locks, latches, or such kind of fastenings for doors and gates, and for other purposes to which they may be applicable.	9029	14th July 1841	Miles Berry.
Locks and latches - - - - -	9104	28th Sept. 1841	Theodore Frederick Strong.
Construction of locks and latches applicable for doors and other purposes.	9144	9th Nov. 1841	Jesse Smith.
Construction of locks - - - - -	9224	15th Jan. 1842	Moses Poole.
Making hollow metal knobs for the handles of door and other locks.	9263	21st Feb. 1842	Daniel Greenfield.
Lock, key, and slide bolt for the said lock ; applicable to other purposes.	9364	24th May 1842	Joseph Duce, junior.
Construction of locks and keys - - - - -	9395	13th June 1842	William Morrett Williams.
Construction of locks for venetian blinds used in carriages.	9497	20th Oct. 1842	James Statham.
Construction of locks - - - - -	9578	29th Dec. 1842	Joseph Rock, junior.
Fastening applicable as a fastening for portmanteaus, bags, boxes, books, and other things.	9879	6th Sept. 1843	William Thomas.
Locks and latches - - - - -	9963	25th Nov. 1843	{ Edward Tann. Edward Tann, junior. John Tann.
Locks and latches - - - - -	9965	25th Nov. 1843	Joseph Rock, junior.
Construction of locks and latches applicable for doors and other purposes.	10,032	30th Jan. 1844	William Fletcher.
Construction of locks and latches, applicable to doors and other similar purposes.	10,182	14th May 1844	Benjamin Pitt.
Fastenings for doors, windows, and other places where fastenings are used.	10,376	2nd Nov. 1844	William Bewley.
Locks and latches - - - - -	10,611	15th April 1845	George Carter.
Furniture of door locks and latches - - - - -	10,763	12th July 1845	Edmund Ratchiff.
Locks - - - - -	10,978	4th Dec. 1845	Moses Poole.
Locks, latches, and other similar fastenings - -	11,015	22nd Dec. 1845	Philip Smith.
Articles applied to windows, doors, and shutters [locks and latches].	11,152	25th March 1846	Edwin Cotterill.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>LOCKS, &amp;c.—continued.</b>			
Manufacture of locks and other fastenings - - -	11,283	6th July 1846	John Palmer de la Fona.
Frames, locks, and fastenings for carpet bags and purses ;—partly applicable to all other locks.	11,299	15th July 1846	William Thomas.
Locks and latches to be used as fastenings - -	11,491	14th Dec. 1846	John Chubb.
Latches, latch-locks, and other locks for fastenings -	11,523	11th Jan. 1847	{ John Chubb. Ebenezer Hunter.
Apparatus and arrangements for affording additional security in locks.	11,659	15th April 1847	Charles Minors Collett.
Bolts, locks, and other fastenings - - - -	11,869	16th Sept. 1847	William Hancock.
Locks - - - - -	12,274	28th Sept. 1848	Robert Stirling Newall.
Locks - - - - -	12,604	8th May 1849	Samuel Wilkes.
Locks and other fastenings - - - - -	13,184	22nd July 1850	James Bradford.
Preparation of materials for producing a composition for making door-knobs.	13,542	4th March 1851	Alfred Vincent Newton.
Construction of locks - - - - -	13,595	15th April 1851	Robert Newell.
Locks - - - - -	13,802	4th Nov. 1851	George Dismore.
Locks - - - - -	13,808	6th Nov. 1851	Michael Leopold Parnell.
Locks - - - - -	13,807	13th Nov. 1851	William Sinclair.
Locks or fastenings - - - - -	13,824	22nd Nov. 1851	Thomas Restell.
Locks or fastenings - - - - -	13,852	8th Dec. 1851	Thomas Restell.
Construction of locks and other fastenings - -	13,935	23rd Feb. 1852	Alfred Charles Hobbs.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>M.</b>			
<b>MANGLING AND IRONING.</b>			
<b>I.—Mangles and Mangling.</b>			
Mangle with sliding collars, and wood or metal springs and rollers, cogged with iron or pinning wheels.	1064	10th Feb. 1774	Hugh Oxenham.
Machine for pressing household linen, wearing-apparel, and other things.	1269	5th Dec. 1780	Roger Rogerson.
Machine for mangling articles of linen, wool, silk, or cotton;—applicable to other useful purposes.	1770	10th Aug. 1790	Edward Thunder.
Mangles - - - - -	1827	12th Sept. 1791	Ferguson Hardie.
Construction of mangles - - - - -	1881	19th May 1792	Thomas Hayes.
Portable mangle or machine for mangling, smoothing, and pressing all kinds of manufactured silks, linens, cottons, woollens, papers, and wearing-apparel, and every other thing which it may be necessary to smooth, press, or mangle.	1894	5th July 1792	Philip Le Brocq.
Portable lever-mangle, for calendering linen and cotton, silks, stuffs, and for other purposes where mangles are used.	2169	28th Feb. 1797	Thomas Oxenham.
Mangle - - - - -	2881	27th Sept. 1805	Stephen Clubb.
Machine for mangling linen and other articles -	3045	26th May 1807	Chester Gould.
Machine for mangling - - - - -	3109	4th Feb. 1808	John Shorter Morris.
Portable mangle - - - - -	3515	13th Jan. 1812	Robert Webster.
Mangles - - - - -	3551	28th March 1812	William Francis Snowden
Mangles - - - - -	3859	3rd March 1813	Joshua Stopford.
Portable table or box mangle, for getting up and smoothing linen, cotton, and other articles.	4124	17th May 1817	William Owen.
Mangles - - - - -	4161	12th Aug. 1817	{ William Geldart. John Servant.
Construction of mangles - - - - -	4771	3rd April 1823	William Warcup.
Mangles; "Bullman's patent cabinet mangles" -	5575	4th Dec. 1827	Samuel Wilkinson.
Mangles - - - - -	6126	22nd June 1831	{ John Lee Stevens. Peter Waycott.
Mangle - - - - -	6271	2nd June 1832	William Hubie.
Preparation of hemp, flax and other fibrous materials, for manufacture of glazing, friction, and mangle bowls.	6451	18th July 1833	John Livesey.
Mangle - - - - -	7541	13th Jan. 1838	Charles Barnard.
Construction and arrangement of machinery for mangling woven goods and fabrics.	7655	29th May 1838	Thomas Ridgway Bridson.
Method of mangling cotton, linen, woollen, and other goods and manufactures; machinery to effect the same.	8148	8th July 1839	Peter Rothwell Jackson.
Machinery for mangling woven goods or fabrics -	8612	27th Aug. 1840	Hugh Unsworth.
Machine for mangling - - - - -	10,624	17th April 1845	Samuel Wilkinson.
Machinery to perform the process of mangling, beetling, and the like.	11,608	5th March 1847	Richard Roberts.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MANGLING AND IRONING—continued.</b>			
<b>II.—Smoothing-irons ; Ironing and Pleating.</b>			
Making box smoothing-irons of pig iron - - -	445	22nd May 1722	Richard Baddeley.
Casting metallic boxes made of iron, bell-metal, brass or other mixed metal, for smoothing linen.	565	8th July 1738	Isaac Wilkinson.
Machine for ironing linen, &c. - - - -	1805	19th May 1787	Thomas Todd.
Smoothing-irons - - - - -	2997	22nd Dec. 1806	William Bell.
Machine for crimping, plaiting, and goffering linen, muslins, frills, and other articles.	4945	27th April 1824	John Turner.
Apparatus for applying prepared fuel to culinary and domestic purposes [ <i>ironing-stoves, and fluting or frilling irons</i> ].	7593	15th March 1838	Thomas Joyce.
Machine for crimping, fluting and quilling muslin and other fabrics.	10,186	15th May 1844	Hesketh Hughes.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>italian-iron and frill-setter ; also box-iron</i> ].	11,149	25th March 1846	Charles Smith.
Apparatus used for ironing - - - - -	11,921	21st Oct. 1847	Charlton Henry Sloman.
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<b>MANURE.—DEODORIZING FECAL MATTERS.</b>			
Curing the sweepings of ships, and rendering them useful and saleable.	402	18th Feb. 1716	Thomas Berry.
Compound of prepared chalk and sea-water, to increase the crops of grain, pulse, and grass - }	438	8th Nov. 1721	{ John Piper. Matthew Tyndale, junior
Making compound manure for enriching and mending all sorts of land.	508	19th Feb. 1729	Thomas Liveings.
Manure from cockle, oyster, and other sea shells -	604	22nd June 1744	Charles Neville.
Composition for manuring and improving arable land, meadow and pasture ground ; “ Baron Van Haacke’s composition.”	1049	30th July 1773	Christian Wilhem Baron Van Haacke.
Preparing a manure from purified offals of fish, flesh, and salt, and which by its attractive quality will impregnate the soil with saltpetre, and so establish perpetual saltpetre mines throughout the kingdom.	1155	13th May 1777	John Mantell.
Preparing and applying certain saline bodies and other substances as manures or stimulants to the ground, and also destructive of insects.	2039	28th Feb. 1795	Archibald Earl of Dundonald.
Reducing human excrement into a powder divested of nauseous smell, for the purposes of fertilizing land.	2570	9th Jan. 1802	Lewis James Armand Estienne.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MANURE, &amp;c.—continued.</b>			
Composition or "prepared gypsum," to be used as a manure, and for destroying the fly in turnips; also snails, ants, and other insects detrimental to vegetables.	2978	21st Oct. 1806	John Fletcher.
Powder applicable to disinfecting night-soil and certain other matters, and facilitating the production of manure.	6865	17th July 1835	Joseph Henri Jerome Poittevin.
Preparing manure - - - - -	7413	2nd Aug. 1837	Archibald Richard Francis Rosser.
Mortar or cement [ <i>applicable as a manure, and for destroying insects</i> ].	8391	22nd Feb. 1840	Thomas Kerr.
Obtaining oils and other products from bituminous matters; purifying or rectifying the oils so obtained [ <i>making manure from the carbon of asphalt and schist</i> ].	9050	4th Sept. 1841	Count Hompesch.
Manufacture of manure, or a composition to be used on land as a manure.	9111	7th Oct. 1841	Joseph Clisild Daniell.
Manures - - - - -	9353	23rd May 1842	John Benner Lawes.
Combining various materials for the purposes of manure.	9380	23rd May 1842	Sir James Murray.
Combination of materials for manufacturing a manuring powder.	9442	10th Aug. 1842	Dominic Frick Albert.
Application of the soot and other products arising from the combustion of a mixed fuel of lime, broken bricks, coal tar, &c., as a manure.	9489	13th Oct. 1842	Charles Thomas Holcombe.
Manufacture of manure from the residuum of oils, with other matters.	10,253	10th July 1844	Moses Poole.
Treating noxious vapours arising from chimneys and from chemical and other works [ <i>preparing the waste lime of gas-works for agricultural purposes</i> ].	10,519	10th Feb. 1845	Oglethorpe Wakelin Barratt.
Application and use of certain compounds as manure; manufacture of such compounds.	10,604	7th April 1845	Christopher Binks.
Manufacture of manure - - - - -	10,616	15th April 1845	James Muspratt.
New and improved methods for the distillation of bituminous schistus and other bituminous substances, as well as for the purification, rectification and preparation necessary for the employment of the productions obtained by such distillation for various useful purposes.	10,726	23rd June 1845	Michael Antoine Bertin Burin Du Buisson.
Obtaining ammoniacal and other products from the refuse matters produced in the manufacture of gas [ <i>manure</i> ].	10,739	26th June 1845	Alexander Angus Croll.
Per-azotic product, and its application to the arts [ <i>manure</i> ].	10,806	7th Aug. 1845	John Evans.
Preparing materials used in fertilizing land, and for aiding vegetation.	10,853	6th Oct. 1845	Augustus Julien Van Oost.
Mode of treating guano for obtaining chemical compounds therefrom.	11,019	24th Dec. 1845	Wilton George Turner.
Collecting the sewage of cities; treating the same chemically; applying it to agricultural and other purposes.	11,181	28th April 1846	William Higgs.
Certain carbonic compounds formed of earthy, vegetable, animal and mineral rubbish, fecal substances, the waste of manufactories, and certain acids and alkalies, applicable as manure.	11,587	20th Feb. 1847	Edward Brown.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MANURE, &amp;c.—continued.</b>			
Preparing putrescent organic matters, as night-soil, the matter held in suspension in the water of sewers, and other similar matters, for the purpose of manure or for other purposes; apparatus for the same.	11,668	20th April 1847	Philip Barnard Ayres.
Arrangements for the management and preservation } of perishable articles - - - - - }	11,715	24th May 1847	{ William Bridges Adams. Robert Richardson.
Material which may be used as a manure, and for other purposes.	11,790	12th July 1847	Robert William Sievier.
Process or methods of disinfecting and rendering inodorous, feculent, excremental, and other matters; chemical re-agents employed in the said processes or methods.	11,898	7th Oct. 1847	Charles Frederick Eller- man.
Preparation of manure - - - - -	11,924	26th Oct. 1847	Edward Barker.
Manufacture of manure - - - - -	12,023	13th Jan. 1848	Benjamin Mitchell.
Manufacture of manures - - - - -	12,113	8th April 1848	{ Thomas Gill. John Edgcumbe Gill.
Carts for the distribution of liquid substances [for watering streets, and distribution of liquid manure].	12,140	27th April 1848	Roger George Salter.
Manufacture of manure - - - - -	12,160	26th May 1848	Thomas Richardson.
Methods and machinery for the preparation of peat in combination with other substances, as a compost or manure.	12,169	1st June 1848	Jasper Wheeler Rogers.
Preserving animal and vegetable substances from decay [for the purpose of being used for manure].	12,250	21st Aug. 1848	John Bethell.
Application and combination of mineral and vegetable products; obtaining products from mineral and vegetable substances [manure].	12,738	9th Aug. 1849	Thomas John Knowlys.
Manufacture of manure - - - - -	12,790	27th Sept. 1849	John Marriott Blashfield.
Method of preparing, by the application of artificial agency, a manure called superphosphate of lime, without using any acids in the decomposition of the various substances of which the manures now in use are made.	12,819	18th Oct. 1849	John Debell Tuckett.
Separation and disinfection of fecal matters in the manufacture of manure; apparatus employed therein.	12,889	30th Nov. 1849	Louis Napoléon Le Gras.
Manufacture of manure and deodorizing and disinfecting materials.	12,992	7th March 1850	Henry James Tarling.
Manufacture of gas for illumination and other purposes; preparing materials to be employed in such manufacture [applying the spent purifying material as a manure] - - - - - }	13,059	23rd April 1850	{ Richard Laming. Frederick John Evans.
Deodorizing the matter extracted from privies, cess-pools, and other places, and rendering it available for agricultural purposes.	13,097	4th June 1850	Paul D'Angely.
Separation and disinfection of fecal matters; apparatus employed therein.	13,280	10th Oct. 1850	James Hamilton Browne.
Treatment of certain bituminous mineral substances; obtaining products therefrom.	13,292	17th Oct. 1850	James Young.
Manufacture of manure; machinery to be used therein.	13,526	24th Feb. 1851	Thomas Wicksteed.
Use and treatment of peat and its products, and other carbonaceous matters; apparatus applicable to such and other chemical purposes [using peat for manuring purposes].	13,590	15th April 1851	Benson Stones.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MANURE, &amp;c.—continued.</b>			
Treating sewage and obtaining products therefrom; combining such products with other matter [ <i>deodorizing sewage; making manure</i> ].	13,775	16th Oct. 1851	Richard Dover.
Treatment of substances for the production of manures.	13,860	17th Dec. 1851	John Gedge.
Manufacture of manure - - - - -	13,869	19th Dec. 1851	Frederick Bousfield.
Treatment and application of slag or the refuse matter of blast furnaces [ <i>using hydrate of silica and gypsum as manure</i> ].	14,013	8th March 1852	Alexander Cunningham.
Manufacture of manure [ <i>treating sewage matters and urine</i> ].	14,073	17th April 1852	Henry Stothert.
Treatment and preparation of flax or other fibrous substances, and application of some of the products to certain purposes [ <i>manure</i> ].	14,128	22nd May 1852	William Watt.
Manufacture of manure - - - - -	14,255	10th Aug. 1852	Richard Archibald Broo- man.
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<b>MAPS AND GLOBES—</b>			
<b>Making and mounting.</b>			
Making artificial globes or spheres, without being covered with printing or drawing, on paper, parchment, or such like materials; to improve astronomy, geography, and navigation - - -	1107	17th Nov. 1775	{ John Haywood. Thomas Jeffreys.
Apparatus to exhibit the phenomena of the moon [ <i>globe fixed to an instrument contrived to give it motion</i> ].	2144	5th Nov. 1796	John Russell.
Instrument or apparatus for the purpose of teaching or instructing in mathematical geography, astronomy, and other sciences, for the use of resolving problems in navigation, spherics, and other sciences [ <i>globe</i> ].	5674	10th July 1828	William Muller.
Constructing globes for astronomical, geographical, and other purposes [ <i>by delineating outlines on the surface of a balloon</i> ].	5894	4th Feb. 1830	George Pocock.
Construction of maps and globes; apparatus for mounting the same.	13,481	31st Jan. 1851	Juan Nepomuceno Adorno.
Statistic and descriptive maps - - - - -	13,932	27th Jan. 1852	{ Joseph Vincent. Melchior Raymondi.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MATHEMATICAL, NAUTICAL, AND ASTRONOMICAL INSTRUMENTS.</b>			
<b>Quadrants, Sectors, Equatorials, Goniometers, Micrometers, Levels, &amp;c.</b>			
Instrument for taking a ship's course - - -	139	— Aug. 1662	{ Thomas Togood. James Hayes.
Pendulum for discovering longitude at sea - -	143	3rd March 1664	Abraham Hill.
Instrument for taking altitudes at sea - - -	431	20th Oct. 1720	Jacob Rowe.
Instrument for taking the sun's altitude at sea and on land.	501	27th July 1728	John Elton.
Mathematical machine, in two parts, for the improvement of astronomy and navigation, by applying its uses to various new problems.	528	30th April 1731	William Bucknal.
Quadrant for taking at sea the altitude of the sun, moon, or stars, and also any other angles; level to be fixed to a quadrant for taking meridional altitudes at sea.	550	22nd Nov. 1734	John Hadley.
Universal astronomical quadrant for taking altitudes	566	21st Dec. 1738	John Barston.
Quadrantal planetarian machine for taking the altitudes of the planets or stars.	605	12th July 1744	John Neale.
Quadrant for taking the altitude of the sun or moon by refraction - - - - -	656	25th May 1750	{ George Adams. Richard Jack.
Making a marine observatory and a new telescope and almanac for ascertaining the longitude at sea.	731	2nd Dec. 1758	Christopher Irwin.
Regulator for discovering longitudes at sea - -	745	31st Jan. 1760	Henry Jenkins.
Quadrant for taking observations at sea - - -	752	2nd Oct. 1760	{ Thomas Winter the elder. John Dollond. Daniel Scatliff. Henry Gregory.
Quadrant of altitude, chiefly applicable to navigation	817	14th Nov. 1764	Richard Brewer.
Constructing compasses in general - - - -	850	10th June 1766	Gowin Knight.
Adjusting and improving the glasses of Hadley's quadrant or sextant; placing darkening glasses before or behind the horizon-glasses, in order that images seen by direct vision may occasionally be darkened.	1017	22nd May 1772	Peter Dollond.
Hadley's quadrant, or sea octant and sextant -	1088	25th Nov. 1774	Joshua Lover Martin.
Astronomical equatorial instrument - - - -	1112	30th Dec. 1775	Jease Ramsden.
Azimuth and amplitude compass and quadrant, for navigation and practical astronomy.	1229	25th June 1779	Gabriel Wright.
Reflecting sector for measuring angles - - -	1286	21st March 1781	William Garrard.
Mariner's compass, with compass-boxes pendant or standing, with ventilator to contain either lamp or candle.	1322	20th March 1782	James Heriot.
Framing to be used in the construction of octants, sextants, and quadrants.	1644	1st April 1788	Edward Troughton.
Mariner's compass - - - - -	1663	12th Aug. 1788	Kenneth McCulloch.
Instrument to serve as an artificial horizon, by means of which the sun's altitude may be taken at sea with a Hadley's quadrant, and the latitude found when the real horizon is obscured or invisible.	1731	2nd March 1790	Thomas Ribrignt.
Instrument for calculating longitude - - - -	1753	1st June 1790	Estienne Leguin.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MATHEMATICAL INSTRUMENTS—continued.</b>			
Quadrant for determining altitudes at sea when no horizon can be found, and for more easily ascertaining the longitude.	1789	21st Jan. 1791	John Syeds.
Making magnetical compasses, commonly called azimuth, amplitude, steering, and hanging compasses, for navigation and marine surveying.	1815	5th July 1791	Gabriel Wright.
Apparatus to be affixed to Hadley's quadrant to obtain an artificial horizon.	1842	17th Dec. 1791	Henry Ould.
Instrument to determine latitude, longitude, and magnetic variation.	1980	18th March 1794	Patrick Rooney Nugent.
Azimuth and amplitude compasses, by the addition of a reflecting quadrant and horizon, by which any one person, without assistance, is enabled to take the azimuth of all celestial objects and their altitudes at the same time, and in every altitude or latitude of the object; method of stopping the card of the compass, and reading the degrees and minutes from off the vernier with or without the card being stopped; also mechanical apparatus for working and solving the problems for finding the true azimuth of objects taken by the compass.	2081	19th Jan. 1796	Gabriel Wright.
Instruments for taking observations and altitudes by sea and land, without dependence on the visible or sensible horizon.	2087	9th Feb. 1796	Edward Cook.
Instrument for ascertaining the geographical position of vessels at sea.	2230	18th April 1798	John Edwards.
Mathematical instruments, whereby the latitude and longitude, variation and inclination of the magnetic needle at sea and on shore, may be obtained in a more general, masterly, and perfect manner than hath hitherto been done.	2246	27th June 1798	Patrick Rooney Nugent.
Mathematical instrument, or "marine level," for showing a ship's deviation from the horizontal plane; applicable in surveying, levelling, and ascertaining vertical and perpendicular situations.	2532	11th Aug. 1801	William Fitzgerald.
Artificial horizon to be attached to and used with the quadrant or sextant, for taking altitudes on land or water.	2559	17th Nov. 1801	Chester Gould.
Instrument or goniometer, to measure angles; "Hartesian goniometer."	2563	3rd Dec. 1801	Naphtaly Hart.
Steering amplitude, or azimuth compass and scale, for finding and working a ship's course.	2883	22nd Oct. 1805	John Syeds.
Machine for showing latitude and longitude at sea -	3088	9th Dec. 1807	Charles Grant Viscount De Vaux.
Ships' binnacles and compasses - - - -	3265	26th Sept. 1809	{ Egerton Smith. Michael Harris.
Action of sea and land compasses - - - -	3363	18th July 1810	George Stebbing.
Micrometer - - - - -	3428	1st April 1811	Thomas William Sturgeon.
Instrument for dividing lines and distances - -	3446	9th May 1811	Thomas Jones.
Telescopes and other optical instruments for } measuring angles - - - - - }	3453	21st May 1811	{ Edward Brewster. William Harris.
Reflecting circle or semicircle - - - - -	3461	2nd July 1811	Sir Howard Douglas.
Ships' compasses and binnacles - - - - -	3525	23rd Jan. 1812	Richard Rowland.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MATHEMATICAL INSTRUMENTS—continued.</b>			
Mathematical instruments - - - - -	3545	5th March 1812	Charles Augustus Schmalcalder.
"Navigator's sector," to find the difference of latitude, departure from the meridian, and distance sailed, with the course; also to solve any problem geometrically, that may be required to show the angles, hypotenuse, perpendicular, and base.	3566	14th May 1812	Henry Ewington.
Mariner's compass - - - - -	3644	20th Jan. 1813	Francis Crow.
Suspending the card of the mariner's compass -	3646	4th Feb. 1813	George Alexander.
Instrument for calculating, without reference to tables, various problems in navigation, practical mathematics, and trigonometry; also heights and distances, and embracing every science depending on angles.	3691	5th May 1813	William Reid.
Instrument for determining longitude at sea - -	3751	10th Nov. 1813	William Pope.
Mathematical and astronomical instruments, in their application to surveying and measurement of angles and distances, by an index which ascertains with precision the measurement of any angle, a parallel movement for obtaining the sine and cosine of such angles, and a detached similar movement for measuring the distance of an inaccessible object, at one station and without trigonometrical calculation; also a compass capable of adjustment to the variation of the magnetic needle.	3760	25th Nov. 1813	John Duncombe.
Philosophical instruments - - - - -	4106	1st March 1817	Daniel Wilson.
Instrument for calculating and ascertaining longitude at sea.	4114	20th April 1817	Antonio Joaquim Friere Marreco.
Mariner's compass - - - - -	4259	7th May 1818	Henry Constantine Jennings.
Instrument for ascertaining the variations of the compass; "The meridian declination dial."	4374	18th May 1819	George Atkins.
Machine to ascertain the difference of a ship's draught of water forward and aft, at sea or in harbour.	4382	27th July 1819	James Head.
Improvements in or additions to the astronomical instrument known by the name of the quadrant [with an artificial horizon].	4695	31st July 1822	Robert Benton Roxby.
Compass for navigation and other purposes - -	4906	5th Aug. 1824	George Graydon.
Ship's compass - - - - -	5189	18th June 1825	Charles Phillips.
Instrument to determine angles of altitude without a view of the horizon.	5229	30th July 1825	The Rev. William Barclay.
Ships' compasses - - - - -	6269	30th May 1832	Grant Preston.
Manufacture of sextants, quadrants, circles and other instruments used in taking observations and surveys.	6526	20th Dec. 1833	David Rowland.
Instruments for measuring angles and distances, applicable to nautical purposes.	6582	27th March 1834	Janet Taylor.
Instrument for determining the latitude and longitude of any place, or the situation of a ship at sea, and the dip and variation of the magnetic needle; "Sherwood's magnetic geometer."	7737	18th July 1838	Richard March Hoe.
Means of rendering magnetic needles less prejudicially influenced by local attraction;—applicable to other magnetic objects for the same purpose.	8096	8th June 1839	Baron Henry de Bode.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MATHEMATICAL INSTRUMENTS—continued.</b>			
Compass for navigation and other purposes;—partly applicable to instruments for measuring angles, and partly to magnetic compasses, for ascertaining true bearings from celestial observations, and for determining the variation of the magnetic needle by comparing such bearings with that of the said needle.	8248	24th Oct. 1839	George Graydon.
Instrument for the measurement of angles - - -	8256	2nd Nov. 1839	Frederick Augustus Glover.
Level for ascertaining the horizon and degrees of inclination.	8742	16th Dec. 1840	Andrew Pruss D'Olszouski.
Meridian instruments - - - - -	9793	20th June 1843	James Mackenzie Bloxam.
Rendering magnetic needles less prejudicially influenced by local attraction.	9932	9th Nov. 1843	William Bush.
Machinery for making parts of instruments for mathematical, optical, astronomical, and nautical purposes.	9993	21st Dec. 1843	Pierre Frederick Ingold.
Ships' compasses - - - - -	10,277	30th July 1844	Edward John Dent.
Mathematical, nautical and astronomical instruments.	10,625	17th April 1845	Peter Piggott.
Instrument for registering angles at sea - -	11,766	24th June 1847	John Richard Watson.
Mariner's compass - - - - -	11,987	7th Oct. 1847	Sir Samuel Brown.
Nautical instruments; manufacture of cases for containing instruments, goods, or merchandise.	12,059	8th Feb. 1848	William Peter Piggott.
Mariners' compasses - - - - -	12,220	20th July 1848	{ David Napier. James Murdoch Napier.
Apparatus for enabling the place or direction of floating bodies to be ascertained [ <i>mariner's compass, with chemically prepared paper, moved by suitable clock-work</i> ].	12,575	17th April 1849	Alexander Alliott.
Taking altitudes and levels on sea and on land -	12,901	19th Dec. 1849	Edward Lyon Berthon.
Instruments for taking, measuring, and computing angles.	12,949	29th Jan. 1850	Donald Beatson.
Compasses for navigation, surveying, and other purposes.	13,176	17th July 1850	Edward John Dent.
Nautical instrument or instruments, applicable especially for great circle sailing.	13,345	14th Nov. 1850	Edward David Ashe.
Magnetic needle and mariner's compass - - -	13,392	7th Dec. 1850	John Mortimer.
Construction of compasses - - - - -	13,429	27th Dec. 1850	John Ransom St. John.
Manufacture of dials for compasses and other articles requiring such dials - - - - }	13,558	17th March 1851	{ Herbert Minton. Augustus John Hoffstaedt.
Ascertaining or indicating the deviation or errors of the mariner's compass.	13,982	23rd Feb. 1852	William Walker.
Nautical instruments applicable for ascertaining and indicating the true spherical course and distance between one port and another.	14,105	1st May 1852	John Moore.
Mariners' compasses - - - - -	14,274	23rd Aug. 1852	Julius Roberts.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEASURING AND NUMBERING.</b>			
<b>I.—Meters—[Gas and Fluid].</b>			
Gas-meters - - - - -	4458	11th May 1820	John Malam.
Measuring fluids or liquids [ <i>measuring the volume of gas in passing to the burner</i> ].	4982	1st July 1824	William Pontifex.
Gas-meters - - - - -	5054	14th Dec. 1824	Sir William Congreve.
Apparatus for measuring and registering the quantity of liquids passing from one place to another.	5088	1st Feb. 1825	Samuel Crosley.
Apparatus to ascertain and register the specific gravity of certain fluids in transitu;—partly applicable to other purposes [ <i>applicable as a fluid-meter</i> ].	5722	4th Dec. 1828	William Brunton.
Gas-meters - - - - -	6020	20th Oct. 1830	Samuel Clegg.
Gas-meters - - - - -	6174	3rd Oct. 1831	Samuel Crosley.
Constructing gas-meters - - - - -	6398	19th March 1833	Miles Berry.
Gas-meters - - - - -	6844	2nd June 1835	John Malam.
Construction of meters or apparatus for measuring gas or liquids.	7221	12th Nov. 1836	Bertie Paterson.
Machinery for measuring fluids [ <i>meters</i> ] - -	7243	3rd Dec. 1836	George Sullivan.
Gas-meters - - - - -	7674	7th June 1838	Samuel Clegg.
Gas-meters - - - - -	7705	27th June 1838	Nathan Defries.
Preparing, constructing, and adapting certain parts of gas-meters - - - - -	7751	28th July 1838	{ George Holworthy Palmer. George Bertie Paterson.
Gas-meters - - - - -	7996	6th March 1839	{ George Holworthy Palmer. George Bertie Paterson.
Water-meter - - - - -	8061	7th May 1839	James Whitelaw.
Gas-meters - - - - -	8154	16th July 1839	John Hemming.
Apparatus for measuring and registering the quantity of gas, water and other fluid passed through such apparatus.	8167	24th July 1839	John Hanson.
Meters for measuring volumes of gas, water and other fluids when passed through them.	8393	22nd Feb. 1840	John Hanson.
Gas-meters - - - - -	8739	16th Dec. 1840	Charles Botten.
Gas-meters - - - - -	8754	23rd Dec. 1840	Joseph Barker.
Dry gas-meters - - - - -	8850	18th Feb. 1841	George Edward Noone.
Supplying gas [ <i>gas-meters</i> ] - - - - -	8883	16th March 1841	George Lowe.
Measuring æriform or fluid substances - - -	8928	20th April 1841	Joseph Barker.
Construction of meters for measuring water or other fluids.	9031	7th July 1841	Andrew McNab.
Meters for measuring gas and other æriform fluids	9030	15th July 1841	{ Thomas Peckston. Philip le Capelain.
Apparatus for measuring gas, water and other fluids.	9344	9th May 1842	Thomas Edge.
Meters for gas and other fluids - - - - -	9449	18th Aug. 1842	{ Nathan Defries. Nathaniel Fortescue Taylor.
Apparatus used when transmitting and measuring gas or other fluids - - - - -	9663	16th March 1843	{ Alexander Angus Croll. William Richards.
Gas-meters - - - - -	9701	19th April 1843	Carl Ludewig Farwig.
Gas-meters - - - - -	9904	12th Oct. 1843	Stephen Hutchison.
Improvements partly applicable to measuring water	9971	5th Dec. 1843	John Hick.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEASURING, &amp;c.—continued.</b>			
Apparatus used when transmitting and measuring gas - - - - -	10,098	7th March 1844	{ Alexander Angus Croll. William Richards.
Apparatus for measuring gas and other fluids; means of manufacturing the same.	10,355	17th Oct. 1844	Alexander Wright.
Apparatus for measuring gas - - - - -	10,440	18th Dec. 1844	Nathaniel Fortescue Taylor.
Gas-meters and gas-meter cases - - - - -	10,535	3rd March 1845	William Smith.
Apparatus for measuring gas - - - - -	10,852	3rd May 1845	William Radley.
Measuring gas - - - - -	10,739	26th June 1845	Alexander Angus Croll.
Gas-meters - - - - -	10,747	2nd July 1845	Stephen Hutchinson.
Gas-meters - - - - -	10,909	3rd Nov. 1845	Richard Archibald Brooman.
Gas-meters - - - - -	11,205	13th May 1846	Alexander Angus Croll.
Gas-meters - - - - -	11,224	27th May 1846	Nathan Defries.
Gas-meters - - - - -	11,269	29th June 1846	William Smith.
Gas-meters - - - - -	11,339	17th Aug. 1846	Joseph Gray.
Gas-meters - - - - -	11,494	15th Dec. 1846	{ Thomas Friend Dickinson. John Falkous.
Manufacture of gas-meters - - - - -	11,516	31st Dec. 1846	Thomas Edge.
Burners for obtaining light and heat; apparatus to be used therewith [gas-meters].	12,053	8th Feb. 1848	Richard Clarke Burleigh.
Gas-meters - - - - -	12,131	20th April 1848	Samuel Clegg.
Measuring water or other fluid - - - - -	12,152	9th May 1848	Edward Haigh.
Construction of galvanic batteries; formation of magnets; employing galvanic batteries for obtaining chemical products [and a graduated meter for galvanic batteries].	12,212	12th July 1848	William Edwards Staite.
Gas-meters - - - - -	12,222	26th July 1848	{ John King. Henry Medhurst.
Apparatus for measuring and registering the flow of liquids.	12,431	20th Jan. 1849	Samuel Brown.
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [apparatus for measuring and registering the flow of gas].	12,491	28th Feb. 1849	Henry Croxley.
Gas and water meters, and instruments for regulating the flow of fluids.	12,532	20th March 1849	William Parkinson.
Regulating, measuring, and registering the flow of fluids and liquids.	12,533	24th March 1849	John Mcintosh.
Machinery for measuring and registering the flow of liquids.	12,731	1st Aug. 1849	John Parkinson.
Gas-meters - - - - -	12,814	18th Oct. 1849	{ David Hulet. John Birch Paddon.
Gas-meters - - - - -	12,890	15th Dec. 1849	Charles Lizars.
Apparatus for regulating measuring, and registering the flow of liquids - - - - -	12,908	21st Dec. 1849	{ Frederick George Spray. George Nevett.
Fluid-meter - - - - -	12,964	9th Feb. 1850	{ Bryan Donkin. Barnard William Farey.
Meter for registering the flow of water and other fluids.	12,989	7th March 1850	John Tebay.
Engines for measuring and registering the flow of fluids and substances in a fluid state.	13,094	1st June 1850	Samuel Brown.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEASURING, &amp;c.—continued.</b>			
Gas-meters - - - - -	13,337	12th Nov. 1850	Henry Medhurst.
Apparatus for measuring gas, water and other fluids	13,468	21st Jan. 1851	Charles Roper Mead.
Manufacture of dials for gas-meters - - -	13,558	17th March 1851	{ Herbert Minton. Augustus John Hoff- staedt.
Reciprocating and rotary fluid-meters - - -	13,571	24th March 1851	Edward Dunn.
Apparatus for measuring water and other fluids -	13,768	9th Oct. 1851	Thomas Taylor.
Machinery or apparatus for regulating and measuring the flow of fluids [ <i>rotary and other water-meters</i> ].	13,779	17th Oct. 1851	Richard Roberts.
Machinery for measuring and registering the flow of water or other fluids or vapours.	13,781	22nd Oct. 1851	John Ramsbottom.
Measuring and registering the flow of water and other fluids.	13,899	20th Jan. 1852	Thomas Kennedy.
Fluid-meter - - - - -	14,080	15th April 1852	Charles William Siemens.
Regulating the flow of liquids - - - - -	14,388	10th Sept. 1852	John Wright Treeby.
Water-meters; regulating, indicating, and ascertaining the supply of water and liquids.	14,304	27th Sept. 1852	Henry Medhurst.
Improvements applicable, or partly so, for measuring and transmitting æriform bodies and fluids.	14,351	8th Dec. 1852	William Gorman.
<b>II.—Measuring the Pressure of Fluids; Steam Gauges.</b>			
Resisting or sustaining the weight or pressure of solids and fluids in any lateral or anti-vertical direction.	1793	24th Feb. 1791	Isaac Ashton.
Regulating atmospheric pressure in lamps, globes, and other transparent cases.	3772	24th Dec. 1813	Sir Thomas Cochrane.
Adjusting or equalizing the pressure of fluids or liquids in pipes or tubes [ <i>gas</i> ].	4982	1st July 1824	William Pontifex.
Construction of gauges for indicating or measuring the expansive pressure of steam or other elastic vapours or gases used expansively as a medium of power.	6943	4th Dec. 1835	James Radley.
Construction of gauges for indicating or measuring the expansive pressure of steam, &c., used as a medium of power.	7744	26th July 1838	Charles Wye Williams.
Apparatus for ascertaining the pressure of steam -	9418	12th July 1842	Jean Leandre Clement.
Apparatus for portioning steam-power - - -	9591	29th Dec. 1842	John Bishop.
Regulating the pressure of steam in steam-boilers -	10,386	9th Nov. 1844	{ David Auld. Andrew Auld.
Steam-engines [ <i>indicating the pressure of steam in the boiler</i> ].	11,294	14th July 1846	Gustaf Victor Gustafsson.
Apparatus for determining the pressure of steam in boilers and regulating the dampers of a furnace.	11,711	22nd May 1847	Sydney Smith.
Ascertaining and indicating the temperature and pressure of fluids [ <i>steam in boilers, by application of the thermometric and electric apparatus</i> ].	12,287	12th Oct. 1848	Arthur Dunn.
Apparatus for ascertaining and marking the force or pressure of wind, water, and steam [ <i>the employment of a column of air and a flexible diaphragm of vulcanized india-rubber</i> ].	12,575	17th April 1849	Alexander Alliot.
Generating and applying motive-power [ <i>steam gauges</i> ].	12,815	18th Oct. 1849	Ethan Campbell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEASURING, &amp;c.—continued.</b>			
Instruments for measuring, indicating, and regulating the pressure of air, steam, and other fluids; also instruments for measuring and regulating the temperature of the same.	13,889	15th Dec. 1849	Charles Cowper.
Measuring the pressure of air, steam, gas, and liquids.	13,332	9th Aug. 1850	Lucien Vidie.
Apparatus to regulate the pressure and flow of water or air in or through pipes.	13,354	19th Nov. 1850	John Hosking.
Apparatus for indicating the pressure of steam -	13,435	2nd Jan. 1851	{ John Tatham, David Cheetham.
Steam and other gauges - - - -	14,320	11th Oct. 1852	William Edward Newton.
<b>III.—Measuring the Height of Water ; Water-gauges.</b>			
Indicating the depth of water in ships and vessels -	5312	14th Dec. 1825	James Ashwell Tabor.
Apparatus for measuring and indicating the depth of water in a ship's hold.	7672	5th June 1838	Thomas Hammond Fiske.
Apparatus to be applied to steam-boilers [ <i>to measure the height of water</i> ].	11,655	15th April 1847	Alfred Vincent Newton.
Pumps, and machinery for working the same;— applicable for working other machinery [ <i>steam and water gauges; lining the same and the tubes of glass gauges</i> ].	12,763	20th Sept. 1849	William Edward Newton.
Apparatus for ascertaining and indicating the supply of water in steam-boilers.	13,870	19th Dec. 1851	Charles Howland.
Indicating the height of water in steam-boilers -	13,878	22nd Dec. 1851	Sydney Smith.
Thermometers, barometers, gauges, and other instruments for ascertaining and registering the temperature, pressure, density, and specific gravity of æriform fluids and liquid or solid bodies [ <i>water-gauge for indicating the height of water in steam-boilers</i> ] - - - -	14,002	8th March 1852	{ Enrico Angelo Ludovico Negretti. Joseph Warren Zambra.
Indicating and regulating the height and supply of water in steam-boilers, applicable to other boilers,	14,068	17th April 1852	William Edward Newton.
<b>IV.—Measuring the Rate of Currents.</b>			
Intercepting and directing currents and waves of water.	7399	10th July 1837	John James Waterstone.
Apparatus for ascertaining the rate at which streams are running.	10,210	1st June 1844	Edward Massey.
Apparatus for measuring the speed of streams and the depths of water.	12,280	5th Oct. 1848	Edward John Massey.
Ascertaining and indicating the rate of currents -	12,901	19th Dec. 1849	Edward Lyon Berthon.
Instruments for indicating the rise, fall, and rate of currents.	13,659	12th June 1851	Edward Lyon Berthon.
<b>V.—Liquid and Dry Measures;—Gauging.</b>			
Machine for ascertaining the increase or decrease of wine or other liquor in casks, without opening the bung or giving vent.	538	18th Jan. 1733	Robert Parker.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEASURING, &amp;c.—continued.</b>			
Bushels and other measures, for measuring coals, grain, seed, and other dry measurable commodities.	2815	23rd Jan. 1805	Simeon Thompson.
Manufacture of measures of capacity [ <i>as ale-mugs of tinned iron</i> ].	4421	9th Dec. 1819	William Carter.
Gauge for measuring the quantity of fluids withdrawn from any receptacle.	5792	26th May 1829	Thomas Arnold.
Instrument for gauging malt and the fluid or solid contents of casks and other vessels - - - }	7591	10th March 1838	{ Abraham Parker. Oliver Byrne.
Apparatus for measuring or supplying from vessels -	9277	4th March 1842	William Palmer.
Liquid measures - - - - -	12,051	8th Feb. 1848	James Bird.
Beer-measures - - - - -	12,852	17th Nov. 1849	Samuel Stocker.
Metallic vessels for measuring and holding liquids -	13,157	3rd July 1850	Richard Winter.
<b>VI.—Measuring, Numbering, and Registering Apparatus—[Passengers, Rate of Carriages, Time, &amp;c.]</b>			
Geometrical and pedometrical watch - - -	1377	17th June 1783	John Fischer.
Machinery attached to a carriage, to measure the distance travelled over, also to afford security.	1710	7th Nov. 1789	Ralph Gout.
Instrument calculated to detect and prevent delay in the delivery of letters and parcels; "Post and commercial time-marker."	1852	11th Feb. 1792	George Wilson.
Machine whereby the possessor thereof is enabled to publish to every one viewing the same, several purposes intended to be performed by him at any future given period of time, or within certain intervals, with great ease and celerity, and without being subject to error; "Time-setter."	2308	20th April 1799	Henry Wood.
Pedometers and pedometrical watches, by the use of which the number of steps the wearer takes when walking may be ascertained, or if affixed to a saddle will indicate the number of paces the horse makes, and when affixed to a curricule or other carriage will also indicate the number of the revolutions of the wheel.	2351	4th Nov. 1799	Ralph Gout.
Machine, apparatus or method for ascertaining the attendance to duty of any watchman, workman, or other person;—applicable to other purposes [ <i>apparatus to be attached to a clock</i> ].	5494	28th April 1827	Henry Knight.
Pedometer for the waistcoat-pocket - - -	6078	15th Feb. 1831	William Payne.
Ascertaining, registering and indicating the work performed by numbering or measuring apparatus.	6567	27th Feb. 1834	Robert Hendrick Goddard.
Cabs [ <i>apparatus placed within the cabs to measure the distance travelled</i> ] - - - - }	7266	21st Dec. 1836	{ William Stedman Gillett. John Chapman.
Apparatus to ascertain correctly the number of passengers conveyed in omnibuses and other public carriages.	8113	18th June 1839	John Lee Benham.
Machinery for ascertaining the velocity of carriages and other means of locomotion, or the space passed through by the same;—partly applicable to the measurement of time.	8645	24th Sept. 1840	John Johnston.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEASURING, &amp;c.—continued.</b>			
Method of combining and applying materials to the formation or construction of roads or ways [ <i>printing the times of the arrival and departure of trains from railway stations, and the times of fast trains passing stations</i> ].	8663	15th Oct. 1840	Henry Pinkus.
Indicator for registering the number of passengers using an omnibus or other passenger vehicle.	9011	28th June 1841	William Knight.
Ascertaining the distances that vehicles travel -	9113	7th Oct. 1841	Marcus Davis.
Machinery for indicating the number of persons entering any description of carriage, house, room, chamber, or place, and also the number of passengers and carriages that pass along a bridge or way.	9667	13th April 1843	William Ranwell.
Apparatus for ascertaining and indicating the time a person is at a certain place.	10,063	27th Feb. 1844	Charles Newington.
Construction of apparatus for ascertaining, registering and regulating the speed of carriages and machinery.	11,062	11th Feb. 1846	William Edward Newton.
Machinery for measuring and indicating the distance travelled by wheel carriages.	11,232	2nd June 1846	Henry Lawrence Tobias Tschudy Von Uster.
Apparatus for ascertaining the distance which locomotive-engines and carriages have travelled on railways.	11,619	10th March 1847	Henry Fletcher.
Ascertaining the speed of carriages - - -	11,751	15th June 1847	Alexander Symons.
Numbering-machines - - - - -	11,812	23rd July 1847	John Lewthwaite.
Apparatus for recording votes at elections - -	12,188	13th June 1848	William Chamberlain, junior.
Apparatus for ascertaining and for marking or registering the velocity of carriages; also apparatus for ascertaining, under certain circumstances, the length of time elapsed after carriages have passed any given place [ <i>ascertaining velocity by the employment of fluids</i> ].	12,575	17th April 1849	Alexander Alliott.
Conveyances on land [ <i>exhibiting in the interior of railway carriages the name of the stations as arrived at, by means of boards on a travelling band moved by the train</i> ].	12,828	2nd Nov. 1849	Lucien Vidie.
Registering the number of passengers entering in or upon conveyances and passage ways; instruments and apparatus for effecting the same.	12,848	17th Nov. 1849	Charles James Pownall.
Machinery for registering the delivery of goods -	12,969	21st Feb. 1850	Thomas Whiffen.
Machinery for numbering - - - - -	13,063	23rd April 1850	Joseph Jean Baranowski.
Machinery applicable to registering the speed of and distance run by vessels.	13,781	22nd Oct. 1851	John Ramsbottom.
Road-measurer,—“Odometer,”—to be attached to carriages for showing the distances over which the wheels pass.	13,838	1st Dec. 1851	William Grayson.
Apparatus for ascertaining and registering the mileage run by public vehicles; also the number of persons who have entered or are travelling in public vehicles;—applicable to public buildings and other places where tolls are taken.	14,171	17th June 1852	James Norton.
Locomotive-engines;—partly applicable to other engines [ <i>apparatus for indicating the distance travelled</i> ].	14,176	24th June 1852	Jean Baptiste George Laudet.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEASURING, &amp;c.—continued.</b>			
Apparatus applicable to public carriages, for ascertaining and registering the number of passengers who have travelled therein during a given period, and the distance each passenger has travelled. [For measuring a ship's way, see "NAVIGATION."]	14,329	19th Oct. 1852	William Edward Newton.
<b>VII.—Measuring for Garments; also measuring Cloth.</b>			
Method of taking the measure, or section, or profile of the head, by an instrument applicable to that and other useful purposes.	3076	21st Oct. 1807	Louis Caron.
Instruments for measuring for corsets or stays; also for the bodies of dresses.	7640	14th May 1838	Jean François Isidore Caplin.
Measuring the human figure - - - -	8306	9th Dec. 1839	John Leslie.
Apparatus for measuring persons' heads, and for fitting and retaining hats, caps, and bonnets according to such measure.	9896	5th Oct. 1843	John Baptist Soldi.
Apparatus for measuring [and registering the measurement of cloth] - - - -	12,736	9th Aug. 1849	{ William Thomas. John Marsh.
Apparatus for measuring persons and facilitating the fitting of garments.	13,628	10th May 1851	Emilian De Dunin.
<b>VIII.—Surveying.—Measuring Timber.</b>			
Instrument called "The catholic organon," or "universal sliding foot-rule."	676	19th Feb. 1753	John Suxapeach.
Sliding-rule for finding the contents of solids and } superficials - - - - - }	686	12th Dec. 1753	{ Jonathan Hulls. William Bradford.
Perambulator or measuring-wheel, so portable as to be confined in a walking-cane of five feet, and yet is exact in its description of poles, furlongs, and miles, by means of three separate hands to denote the same,—useful for purposes of surveying.	833	15th July 1765	Isaac Fenn.
Instrument for measuring standing timber - -	875	18th May 1767	{ John Duncombe. Joseph Pohle.
Apparatus for planning and surveying by land or sea.	1274	16th Dec. 1780	George Beck.
Machinery for measuring distances, taking altitudes and descents, dimensions of lands, buildings, and other bodies or articles, at one view;—applicable to other purposes.	2077	9th Dec. 1795	Edward Hewlings.
Principles and forms of tables used in surveying -	2794	24th Nov. 1804	James Sharples.
Instruments for ascertaining the cubic contents of standing timber.	4924	20th March 1824	James Rogers.
Machinery for measuring land, and for other purposes [tape in a metal case, and wound up by a spring].	5517	14th July 1829	James Chesterman.
Instrument for ascertaining levels - - - -	6742	23rd Dec. 1834	John Browne.
Scales used in drawing and laying down plans -	8852	18th Feb. 1841	John Collard Drake.
Tapes for measuring, and boxes for containing the same - - - - - }	9214	11th Jan. 1842	{ James Chesterman. John Bottom.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEASURING, &amp;c.—continued.</b>			
Mode of manufacturing dials and other graduated plates [ <i>scales for drawing and laying down plans</i> ].	10,625	17th April 1845	Peter Figgott.
Tape-measures, and cases for containing the same; also machinery for making such measures and cases, or parts thereof.	11,962	13th Nov. 1847	John Chesterman.
Apparatus, instrument or means for ascertaining or setting off the slope or level of drains, banks, inclines, or works of any description, on land or water.	14,122	8th May 1852	William Gillespie.
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<b>MEDICAL AND SURGICAL TREATMENT.— DENTAL AND OTHER SURGERY.</b>			
<b>I.—Medical Treatment of Nervous, Consumptive, and Cutaneous Diseases.</b>			
<b>1. (Nervous and Consumptive.)</b>			
Chemical preparation for the cure of nervous complaints; " <i>Nervous medicine</i> ."	601	17th Feb. 1744	Peter Henry.
Powder and pill for the cure of fevers and other distempers.	626	13th Nov. 1747	Robert James.
Chemical preparation; " <i>Female strengthening elixir</i> ."	661	27th March 1751	Joseph Fraunces.
Child-bed cordial and powder; strengthening balsam and powder for ricketty and weakly children.	672	1st July 1752	John Hooper.
Medicine called " <i>Cordial mixture</i> ," for women in labour.	684	1st Aug. 1753	William Wright.
Anti-epileptic powders, for the cure of apoplexy, epilepsy, convulsions, and several other distempers.	700	4th June 1755	William Lowther.
Medicine which being made into powders, is a cure for nervous and paralytic disorders, and chemically made into drops is an immediate cure for nervous and other pains and weaknesses.	718	12th Nov. 1757	William Lowther.
Medicine called " <i>Tinctura embryonum</i> " - - -	742	23rd July 1759	Hart Wessels.
Composition for the cure of ague; " <i>Foster's composition</i> ."	845	15th April 1766	Abraham Foster.
Drops for cure of fever and all inflammatory disorders; also beneficial in many chronic disorders.	909	7th Dec. 1768	Thomas Norris.
Analeptic pills - - - - -	1089	25th Nov. 1774	Robert James.
Medicinal preparation for cure of intermitting fevers, consumption, and many other disorders.	1208	20th Jan. 1779	John Bacon.
Medicinal composition, as a remedy for agues and intermitting fevers.	1278	16th Feb. 1781	Thomas Wilson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEDICAL TREATMENT, &amp;c.—continued.</b>			
Remedy for the ague; "Aromatic ague cake" -	1616	19th Dec. 1785	Joseph Severne.
Medicine or cardiac and nervous tincture, for the relief and cure of disorders of the head, stomach, and bowels, the symptoms of the atonic gout, affections of the nervous system, relaxation and debility of the muscular and vascular systems, and the cure and prevention of infection from fevers prevailing in prisons, hospitals, ships, hot and unhealthy climates, and in other places.	1900	24th July 1792	James Rymer.
Human restorative or nervous corroborant drops, for invigorating and repairing the tone of the animal fluids and solids, correcting natural irregularities, debilities, or weaknesses, eradicating hypochondriacism and impediments of the animal functions, thus restoring and preserving health and vigour of body, and serenity of mind.	1930	15th Jan. 1793	Robert Grubb.
"Nervous cordial" for the cure of consumptive, nervous, and debilitated constitutions.	2303	10th April 1799	William Brodum.
2. (Pulmonic.)			
Composition; "West's pectoral elixir" - - -	667	1st Jan. 1752	George West.
Medicine called essence of flowers of benzoin, or pulmonic drops.	835	3rd Dec. 1765	Thomas Williams.
Making black-currant drops, and lozenges of fruit, for the cure of sore throats, coughs, and hoarseness.	1035	5th March 1773	James Irwin.
Medicine for the cure of the whooping-cough and disorders of the stomach and lungs, and which is also an anti-scorbutic; "Antipertussis."	1423	12th March 1784	Benjamin Martin.
Medicine for cure of consumption and diseases of the lungs; "Godbold's vegetable balsam."	1476	3rd May 1785	Nathaniel Godbold.
"Howe's pectoral lozenges," of horehound, for the cure of consumptions, asthmas, coughs, and other disorders.	1671	6th Oct. 1788	Thomas Howe.
Vegetable pill, balsam, and ointment, as remedies for the cure of consumption, scrofula, and gout.	2275	27th Nov. 1798	Nathaniel Godbold.
Medicine for the cure of the whooping-cough - -	2705	23rd May 1803	James Roche.
Tincture for the cure and relief of coughs, asthmas, and diseases of the lungs and chest; "Towers' new London cough tincture."	4045	11th July 1816	John Towers.
Medicine for the cure of coughs, colds, asthmas, and consumptions; "Ford's balsam of horehound."	4087	21st Nov. 1816	Robert Ford.
Medicine for the cure of coughs, colds, asthmas, and consumptions; "Ford's balsam of horehound."	5981	12th Aug. 1830	Thomas Ford.
Curing or relieving disorders of the lungs - - -	6988	23rd Jan. 1836	Julius Jeffreys.
Medicinal compound or ferruginous preparation, to give tone and vigour to the human system;—applicable to weak digestion and diseases called "chlorosis."	8105	12th June 1839	William Newton.
Means of giving expansion to the chest - - -	9117	7th Oct. 1841	John Harwood.
Apparatus for expanding the human chest - -	9209	23rd Dec. 1841	William Baillicu.
Respirators - - - - -	10,287	6th Aug. 1844	Julius Jeffreys.
Apparatus and instruments for respiration - -	11,354	26th Aug. 1846	Thomas Wroughton.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEDICAL TREATMENT, &amp;c.—continued.</b>			
Means and apparatus for administering certain matters to the lungs [ <i>vapour of ether for medical or surgical purposes</i> ].	11,503	21st Dec. 1846	Moses Poole.
Construction of respirators - - - - -	12,373	21st Sept. 1848	William Brown Roof.
Preventing or removing affections of the chest -	12,984	28th Feb. 1850	Julius Jeffreys.
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3. ( <i>Venereal.</i> )			
"Greek water," an easy and safe cure and preservative for any venereal distemper.	603	9th May 1744	Nicholas Cerreti.
Compound medicine or anti-venereal cathartic electuary.	665	17th Oct. 1751	Richard Rock.
Safe, expeditious, and effectual cure of the venereal disease.	729	16th Aug. 1758	John Ryan.
Liquid to prevent the venereal disease - - - -	1078	1st Sept. 1774	Samuel Hannay.
Medicine called "Friar's drops" for the cure of the venereal disease, &c.	1158	13th June 1777	Robert Grubb.
Instruments for complaints in the urethra - -	4061	19th Aug. 1816	Robert Salmon.
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4. ( <i>Cutaneous.</i> )			
Ointment as an antidote for the itch and all scorbutic humours.	748	26th March 1760	Ann Pike.
Specific medicine to produce a favourable species of } the small-pox - - - - - }	857	13th Aug. 1766	{ Robert Sutton. Daniel Sutton.
Medical cure for scorbutic disorders, by administering an electuary and drops internally, and applying a digestive liniment and cerate externally.	1005	12th Feb. 1772	Samuel Chase.
Medicine for eradicating scorbutic disorders; "Anti-scorbutic drops."	1848	4th Feb. 1792	Francie Spilsbury.
Re-animating tincture, a medicine of great efficacy in the cure of cutaneous diseases, impurities of the blood, debility, disorders of the stomach and bowels, inflammatory and rheumatic disorders; an efficacious styptic in cases of violent bleeding; also, if outwardly applied, will heal wounds, and is a preventive of mortification; "Re-animating solar tincture."	2049	7th May 1795	Ebenezer Sibly.
"Botanical syrup" for the cure of scorbutic, leprous, and scrofulous complaints. "Nervous cordial" for the cure of consumptive, nervous, and debilitated constitutions.	2303	10th April 1799	William Brodum.
Pills and liquid, also a botanic ointment, for the cure of the evil, scrofula, scurvy, and leprosy.	2631	26th March 1805	Richard Brandon.
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<b>II.—Medical Treatment of Rheumatism, Gout, Stone and Gravel.</b>			
Drops for rheumatism, stone, gravel, agues, and hysterics; "Dr. Bacon's pectoral drops."	493	31st March 1726	Benjamin Okell.
Specific powder for the cure of rheumatism and the relief of gout.	584	13th May 1742	Robert Hayward.
Oil extracted from a flinty rock, for cure of rheumatic and scorbutic cases - - - - - }	587	14th Aug. 1742	{ Michael Betton. Thomas Betton.
Pills for curing the gout and rheumatism - -	597	19th Jan. 1744	Francis Tanner.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEDICAL TREATMENT, &amp;c.—continued.</b>			
Oil for giving ease in fits of the gravel and stone, and for other purposes.	666	31st Dec. 1751	James Langley.
Anti-arthritic wine and powder for curing the gout.	728	16th Aug. 1758	Joseph Collett.
Balsam for cure of sand or gravel in the bladder or kidneys, also green wounds and other casualties.	808	13th Aug. 1768	Thomas Appleby.
Remedy for expelling the gout from the head, stomach, or any vital part; assuaging the paroxysms, and curing the disease, without medicine, plaster, or other application, internally or externally.	1944	1st April 1793	Christopher Gullett.
Acromatic belt, which, being applied to the human body, effects the cure of gout, rheumatism, and other diseases.	2013	30th Sept. 1794	Anthony Yeldall.
Preventing the effects of moisture on the human body, and facilitating relief in inflammatory and spasmodic complaints arising from it and other causes.	2070	22nd Oct. 1795	James Willson.
Medicine for the cure of rheumatism, palsy, and other complaints; "Whitehead's improved essence of mustard."	2226	30th March 1798	Robert Johnston.
Medicine for cure of gout, rheumatism, &c.; method of administering the same.	2667	9th Dec. 1802	William Beer.
Pills and liquid, also a botanic ointment, for the cure of the gout and rheumatism.	2831	26th March 1805	Richard Brandon.
Medicinal preparation as a remedy for gravel and stony concretions; "Mucilage of marsh mallows."	3284	9th Dec. 1809	Samuel Felton.
Instruments for complaints in the urethra and bladder.	4061	19th Aug. 1816	Robert Salmon.
Surgical instrument for destroying the stone in the bladder without cutting; "Lithonriptor."	5255	15th Sept. 1825	Isaiah Lukens.
Medicine for gouty affections of the stomach, spasms, cramps, inflammation of the lungs, and other like diseases.	5834	20th Aug. 1829	John Mushet.
A drink for the cure or relief of gout, gravel, and other diseases;—applicable to other cases.	6080	21st Feb. 1831	Richard Burgess.
Surgical instruments for reducing the stone in the bladder, and enabling the patient to pass it off through the urethra.	6627	16th June 1834	James Lee Hannah.
Specific remedy for the cure, alleviation, or prevention of gouty, rheumatic, or other affections arising from colds or other causes.	6650	26th July 1834	William Coles.
Pills for the cure and amelioration of sciatica, rheumatism, gout, lumbago, ague, and similar diseases.	7543	18th Jan. 1838	Henry Hewitt.
<b>III.—Medical Treatment of Stomach and Bowel Complaints.</b>			
Elixir for cure of dropsy and jaundice, and for relief of the stone and gravel.	600	17th Feb. 1744	Joseph Collett.
Medicine called "Cordial bitter tincture," for the stomach.	680	5th April 1753	Humphry Jackson.
Cordial draught for the cholic and other griping pains.	705	20th Oct. 1755	Jeremiah Taylor.
Remedy for pains and disorders in the stomach, bowels, and other membranous parts of the body.	716	31st Oct. 1757	Thomas Greenough.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEDICAL TREATMENT, &amp;c.—continued.</b>			
Medicine or worm-destroying cakes; " <i>Rotulæ Anthelminthicæ</i> ."	736	3rd Feb. 1759	James Story.
Medicinal composition; stomach pill - - -	791	29th July 1763	William Fordyce.
Analeptic pills for the cure of rheumatism, also the loss of appetite, and for the cure of costiveness, giddiness, flatulency, and all disorders occasioned by a sedentary life.	1089	25th Nov. 1774	Robert James.
Medicinal compound powders for the relief of children afflicted with gripes and convulsions.	1116	22nd Feb. 1776	Robert Wakefield.
Purging carminative tincture, for the cholic, gripes, gout, rheumatism, jaundice, and dropsy.	1121	19th March 1776	William Radley.
Medicine for relieving bilious complaints, indigestion, and obstructions in the bowels; " <i>Stomach drops</i> ."	1531	7th Feb. 1786	Samuel Chase.
Medicine for extirpating worms and their cause from the human body; also for the relief and cure of other complaints.	1878	15th May 1792	Robert Mason.
Medicine for destroying worms - - -	3121	28th June 1796	John Ching.
Medicinal compound, or " <i>Barclay's deobstruent pills</i> ."	2634	14th July 1802	William Barclay.
Medicine called " <i>Ching's worm-destroying lozenges</i> ."	3129	7th May 1808	Rebecca Ching.
<b>IV.—Medical and Surgical Treatment of Distortions, Fractures, and Wounds; also Cupping and Bleeding.</b>			
Chemical preparation and styptic medicine for stopping external and internal bleedings, and for healing flesh wounds.	443	18th April 1722	Robert Eaton.
Styptic for cure of bloody flux, diarrhoea, external and internal bleedings, &c.	533	11th Oct. 1731	Edward Lovel.
Tincture for curing burns, scalds, green wounds, old bruises, strains, sprains, rheumatic and other maladies.	627	9th Dec. 1747	Thomas Jackson.
Tincture to preserve the blood from siziness, and a saline scorbutic acrimony.	773	21st May 1762	Theophilus Lobb.
Powder to purify the human blood and cure rheumatism and several other disorders; " <i>Poudre unique</i> ."	943	23rd Dec. 1769	Charles Lerat.
Powder for stopping violent internal and external bleeding.	1050	3rd Aug. 1773	James Faynard.
" <i>Samaritan water</i> ," for strains, bruises, wounds, and many complaints.	1208	8th Jan. 1779	Thomas Greenough.
Medicine or concentrated balsam of arquebusade, an antiseptic chemical preparation, useful in the cure of fractures, dislocations, and wounds, also bilious complaints, the dropsy, gravel, and worms; " <i>Baume d'arquebusade concentre</i> ."	1522	23rd Jan. 1786	John Thompson.
Medicine or concentrated balsam of arquebusade, an antiseptic chemical preparation, and a remedy, externally, in the cure of fractures and dislocations, also gun-shot and other wounds; and, internally, is a remedy for the jaundice, bilious complaints, dropsy, gravel, and worms; " <i>Baume d'arquebusade concentre</i> ."	1568	30th Oct. 1786	John Thompson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEDICAL TREATMENT, &amp;c.—continued.</b>			
Machine for the relief of persons with a fractured leg or thigh.	2058	29th July 1795	Jacob Stanton.
Curing deformities of children and others, arising from distortion in the form or combination of bones in the deformed part.	2157	24th Jan. 1797	Timothy Sheldrake, jun.
"Tourniquet," a surgical instrument - - -	2387	31st March 1800	John Horatio Savigny.
Mechanical apparatus for supporting the human body.	2653	30th Oct. 1802	Augustus Frederick Thoelden.
Apparatus for the support and exercise of the human frame, and for the prevention of bodily deformity.	3283	5th Dec. 1809	George Ware.
Instrument for staying hemorrhage of the sub-clavian artery, in amputation of the arm.	3631	21st Dec. 1812	John Barker.
Instrument for the prevention and remedy of deformity in the human trunk.	4418	4th Dec. 1819	Charles William Feuillade (Enrolled Charles William Feuillade Aubusson.)
Making waistbands, or umbilical, ventral, lumbar, and spinal bandages or supporters, to be permanently fixed to the clothes [formed by a combination of small worm-springs].	4901	19th Feb. 1824	Henry Adcock.
Lancet - - - - -	5315	16th July 1825	Thomas Robinson Williams.
Apparatus used for cupping - - - - -	5354	29th April 1826	Charles Kennedy.
Apparatus for relief of stiffness, weakness, or distortion in the human spine, chest, or limbs.	7337	4th April 1837	Joseph Amesbury.
Apparatus for the support of the human body -	8008	20th March 1839	Joseph Amesbury.
Apparatus for the support of the human body and correction of distortions of the spine.	8400	25th Feb. 1840	Richard Kingdon.
Apparatus for facilitating the reduction of fractures and dislocations of bones, and for maintaining the parts in their just positions.	10,040	8th Feb. 1844	Ezra Jenks Coates.
Apparatus for the relief or correction of stiffness, weakness, or distortion in the human body.	10,659	6th May 1845	Joseph Amesbury.
Apparatus for preventing and alleviating spinal disorders.	10,801	4th Aug. 1845	Alanson Abbé.
Apparatus for prevention and treatment of distortions of the spine and chest, also for treatment of diseases of the spine and other disorders where a recumbent position of the patient is required.	11,364	3rd Sept. 1846	James Colles.
Surgical instruments [making india-rubber plugs for gun-shot wounds].	13,674	24th June 1851	{ Richard Edward Hodges. William Brockedon.
<b>V.—Surgical Treatment of Ruptures and Prolapses.</b>			
Medicinal belt - - - - -	617	3rd April 1746	Edmund Neeler.
Traversa elastic truss, for relief of persons afflicted with ruptures in the groin or navel.	996	10th Aug. 1771	Robert Brand.
Spring truss for the relief of persons afflicted with ruptures.	1200	23rd April 1781	William Squire.
Spring trusses for ruptures, whether single, double, navel, side, and inguinal.	1454	15th Nov. 1784	Nathaniel James.
Truss for the cure of ruptures - - - - -	1490	16th July 1785	Thomas Lewis.
Applying springs to trusses or bandages for ruptures.	1558	29th Sept. 1786	Thomas Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEDICAL TREATMENT, &amp;c.—continued.</b>			
Elastic girdles, bandages, or rollers, for relief of ruptures, sprains, and swellings.	1615	20th July 1787	Dr. Anselm Bayley.
Manufacture of springs for trusses, and the coverings thereof, which method of manufacturing springs is applicable to steel backs and to other purposes.	1912	18th Oct. 1792	John Sleath.
Trusses for persons afflicted with bubonocoele and other ruptures.	2050	12th May 1795	Thomas Lambe.
Truss with a jointed and spring pad, elastic under-strap, and circular band.	2093	1st March 1796	Michael Bowman.
Truss for the cure and prevention of rupture - -	2110	24th May 1796	William Goldfinch.
Construction of elastic trusses - - - -	2514	18th June 1801	Thomas Bartlett.
Treating and curing ruptures - - - -	2644	30th Aug. 1802	{ Joseph de Oliveira Barreto. Mary de Lima Barreto.
Construction of trusses for ruptures - - -	2891	23rd March 1803	Robert Clarke.
Trusses for compressing and supporting the human body.	2919	21st March 1806	Henry Gore Clough.
Manufacturing elastic spring trusses for ruptures or rupture bandages.	2922	26th March 1806	Joseph Hinchliffe.
Trusses or bandages for ruptures - - - -	2954	1st Aug. 1806	James Rawlinson.
Trusses for cure of ruptures - - - -	2970	2nd Oct. 1806	Robert Salmon.
Trusses - - - - -	3069	25th Aug. 1807	Richard Rees.
Instrument for the relief of hernia; "Salmon's new royal patent artificial abdomen."	3402	4th March 1811	Robert Salmon.
Anatomical self-regulating truss - - - -	3919	1st June 1815	John Lingford.
Trusses - - - - -	3997	14th March 1816	{ John Fitkin. William Fitkin. Joseph Barton.
Single and double trusses - - - - -	4359	20th April 1819	Philip Pindin.
Construction and application of spring trusses or bandages for the relief or cure of hernia - - }	4478	20th June 1820	{ John Butler Lodge. John Bettleston.
Construction of instruments for the relief of hernia and prolapsis; "Scientific principled, variable, secure, light, easy, elegant, cheap, and durable trusses."	4526	15th Jan. 1821	Robert Salmon.
Braces or instruments for the relief of hernia or ruptures.	4567	5th July 1821	William Coles.
Manufacturing trusses for the cure of ruptures or hernia.	4600	18th Oct. 1821	Owen Griffith.
Trusses - - - - -	4860	11th Nov. 1823	Thomas Gowan.
Instruments, trusses or apparatus for the relief or cure of rupture or hernia.	5648	6th May 1828	Thomas Adams.
Trusses or instruments for the cure of hernia or rupture.	6605	3rd April 1835	Robert Gillespie.
Instruments for supporting the prolapsed uterus -	7112	9th June 1836	Amos Gerald Hull.
Trusses and surgical bandages - - - -	7973	21st Feb. 1839	Herbert Read Williams.
Trusses for the relief of hernia - - - -	8904	29th March 1841	George Evans.
Apparatus for relief and cure of procedentia and prolapsus uteri.	9093	20th Sept. 1841	Alfred Elam.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEDICAL TREATMENT, &amp;c.—continued.</b>			
Trusses or surgical bandages - - - -	9296	15th March 1842	Alfred Green.
Hernial trusses, to prevent the descent of hernia through the internal as well as the external ring.	9992	21st Dec. 1843	Francis L'Estrange.
Injecting instruments; also applicable to various pneumatic purposes.	10,452	2nd Jan. 1845	James Horne.
Enema syringes; stomach and other pumps -	10,588	7th April 1845	James Hamer.
Flexible syringes - - - - -	10,626	4th Sept. 1845	Henry Bewley.
Trusses - - - - -	10,912	3rd Nov. 1845	Chandos Hoskins.
Fastenings for surgical and other bandages -	11,037	13th Jan. 1846	Thomas Moorcroft Benbow.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of surgical bandages</i> ] - - - - -	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Truss for inguinal hernia - - - - -	11,590	24th Feb. 1847	George Russell Dartnell.
Manufacturing elastic stockings and other elastic bandages and fabrics.	12,294	26th Oct. 1848	William Brown.
Trusses - - - - -	12,336	23rd Nov. 1848	Henry Newson.
Trusses - - - - -	12,594	1st May 1849	James Wilson.
Abdominal supporters - - - - -	13,200	31st July 1850	Richard Archibald Brooman.
Chemical compounds for tissue bandages and also for surgical purposes.	13,484	31st Jan. 1851	Jean Paul Gage.
Laced stockings or bandages for the leg, or substitutes for the same.	13,787	23rd Oct. 1851	Jonathan Sparks.
 <b>VI.—Medical and Surgical Treatment (Miscellaneous).</b>			
<b>1. (Miscellaneous Curative Treatment.)</b>			
Curing diseases by drawing over the parts affected various pointed metals, which extract the offending matter.	2221	10th March 1798	Benjamin Douglas Perkins.
Applying the agency of atmospheric air and liquid or gaseous substances to the human body, externally and internally, for medicinal purposes.	4288	24th Aug. 1818	Thomas Machell.
Surgical chair-bed, with various appendages -	5605	15th Jan. 1828	William Newton.
Destroying animal poison by application of a chemical agent, and thereby preventing disease consequent thereon [ <i>chlorine</i> ].	5643	29th April 1828	John James Watt.
Curing certain maladies of the head - - - -	6473	21st Sept. 1833	Louis Cournier.
Instruments to facilitate the cure of disease, by administering galvanic influence into the human body.	6574	13th March 1834	John Isaac Hawkins.
Instrument to be applied to the ear, to assist in hearing.	7033	17th March 1836	Alphonsus William Webster.
Apparatus for supporting a person in bed or when reclining.	9565	22nd Dec. 1842	Taverner John Miller.
Apparatus for protecting the human face or part of the human face from the inclemency of the weather;—partly applicable for protecting birds in cages.	10,180	14th May 1844	John Browne.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEDICAL TREATMENT, &amp;c.—continued.</b>			
Certain improved medicines or compounds, and the application of an instrument to prevent, alleviate, and cure certain diseases; also machinery for manufacturing the said instrument.	10,798	4th Aug. 1845	Pierre Armand le Comte de Fontainemoreau.
Hygienic apparatus and processes for preventing and curing chronic and other affections, and for preventing or stopping certain epidemic diseases.	12,385	21st Dec. 1848	Pierre Armand le Comte de Fontainemoreau.
Applying galvanism and magnetism to curative and sanatory purposes.	12,847	17th Nov. 1849	Charles Ludovic Augustus Meinig.
Machinery for sanatory purposes - - - -	13,907	19th Dec. 1849	Joseph Whitworth.
Preventing the injurious effects arising from the smoking of tobacco [ <i>intercepting the noxious oils by causing the smoke to percolate through fibrous materials placed within the bowl of the pipe.</i> ]	13,747	18th Sept. 1851	George Phillips.
Apparatus for improving and restoring human hair	14,077	20th April 1852	Robert Griffiths.
2. (Miscellaneous Medicines.)			
Making the salt of purging waters perfectly fine, in large quantities and cheap, for use as a medicine.	354	15th July 1698	Nehemiah Grew.
"Sal-oleosum volatile," a chemical preparation or medicine.	388	22nd Oct. 1711	Timothy Byfield.
Restorative cordial and medicine; "Stomachic tincture," or "bitter drops."	390	3rd April 1712	Richard Stoughton.
Medicine called "Female pills" - - - -	592	21st July 1743	John Hooper.
Specific balsam or "Balsam of life" - - - -	596	18th Jan. 1744	Robert Turlington.
Medicine called "Schwanberg's liquid shell" -	633	12th July 1748	Walter Baker.
Medicine called "Oleum anedinum," or British balsam of health - - - - }	673	3rd July 1752	{ Joseph Collett. James Jackson.
"Pilula salutaria," or health-restoring pill - -	677	6th March 1753	Walter Leake.
Medicine called "Oleum vitæ," or the "Ladies' nervous and cordial drops."	695	2nd Dec. 1754	Joseph Collet.
Medicine called "Jesuit's drops" - - - -	706	29th Oct. 1755	Robert Walker.
Royal military drops - - - -	719	12th Nov. 1757	Louis Goy La Blache.
Violet cordial - - - -	748	21st Feb. 1760	Edward Calvert.
Medicine called "Royal clove drops" - - -	757	11th Dec. 1760	Henry Wright.
Specific called "Imperial lotion" - - - -	766	1st Sept. 1761	Thomas Jackson.
Medicine called "Dr. Ryan's white drops" - -	779	20th Aug. 1762	John Ryan.
Medicine called "Essence of peppermint" - -	781	11th Nov. 1762	John Juniper.
Medicine called "Maredant's drops" - - - -	820	30th Nov. 1764	John Norton.
Medicine called "Beaume de vie," manufacturing the same from scarce and valuable drugs - }	868	10th Feb. 1767	{ John Hopkins. Thomas Beckett. Christopher Henderson.
Medicine called "Velno's vegetable syrup," manufacturing same from rare and valuable vegetables and drugs.	1008	17th March 1772	John Burrows.
Medicinal and chemical mixture or composition from divers salutary ingredients.	1029	17th Dec. 1772	Richard Warren.
Medicine called "Friar's drops," for the cure of the venereal disease, scurvy, rheumatism, strangury, and gicets.	1158	13th June 1777	Robert Grubb.
Medicine called "Spa elixir" - - - -	1334	31st July 1782	Thomas Gale.
Medicine called "Oriental vegetable cordial;" making the same from herbs, flowers, and roots.	1403	1st Dec. 1783	Bryan Cornwell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEDICAL TREATMENT, &amp;c.—continued.</b>			
Chemical medicine, called "Spiritus ethereus anodynus," or "anodyne ethereal spirit."	1554	5th Aug. 1786	William Tickell.
Medicine or chemical preparation; "Compound concentrated fluid vital air."	2291	29th Jan. 1799	Joseph Barton.
Preparing extract of zinc for medicinal purposes -	2315	28th May 1799	Henry Browne.
Medicine called "Phlogistical and fixed earth of Mars," for the cure of various diseases.	2432	2nd Aug. 1800	Innocenzo Della Lena.
Reducing calomel to an impalpable powder for medicinal use.	3081	17th Nov. 1807	Joseph Jewells.
Substitute for Peruvian bark - - - -	3254	4th Aug. 1809	Ferdinand Smith Stuart.
Manufacture of Epsom salts - - - -	4049	3rd Aug. 1816	William Henry.
Preparation and application of purgative vegetable oil [ <i>from croton nuts</i> ].	4680	21st March 1822	William Eugene Edward Conwell.
Vegetable, mercurial, spirituous preparation; "Quintessence antipsorique, or Mettemberg's water;" employing the same, by cutaneous absorption, as a specific and medical cosmetic.	5112	26th Feb. 1825	Chevallier Joseph de Mettemberg.
Extracting quinine and cinchonine from Peruvian bark.	5332	11th Feb. 1826	William Warren.
Application of a certain chemical agent for destroying animal poison, and for preventing the disease consequent thereon [ <i>a wash impregnated with chlorine gas</i> ].	5643	29th April 1828	John James Watt.
Medicine or embrocation to prevent or alleviate sea-sickness.	5723	4th Dec. 1828	Philip Derbishire.
Medicinal composition or embrocation for external and internal complaints.	6196	17th Dec. 1831	Isaac Strombon.
Manufacturing calomel - - - -	6872	8th March 1841	Anthony Todd Thomson.
Manufacture and preparation of pills, and some other articles of a medicinal or remedial nature.	9305	21st March 1842	William Palmer.
Manufacture of pills - - - -	9954	21st Nov. 1843	William Palmer.
Manufacture of pills and medicated lozenges - -	9977	8th Dec. 1843	William Brockedon.
Medicines or compounds to prevent, alleviate, and cure certain diseases.	10,796	4th Aug. 1845	Pierre Armand le Comte de Fontainemoreau.
Manufacture of quinine - - - -	11,204	12th May 1846	John Lloyd Bullock.
Compounds to be used for the prevention of injury to health under certain circumstances [ <i>as a disinfecting agent</i> ].	12,354	2nd Dec. 1848	Robert Nelson Collins.
Medical compound [ <i>or ointment, for curing neuralgia, rheumatism, headache, gout, and sciatica</i> ].	14,276	26th Aug. 1852	Paul Joseph Poggioli.
<b>3. (Miscellaneous Instruments and Appliances.)</b>			
Making catheters and bougies of fine leather, for curing the stone in the bladder.	828	5th June 1765	Joseph Collett.
Making medicated pumps - - - -	882	11th Sept. 1767	Bartholomew Dominicetti.
Surgical instrument called a "tourniquet" - -	2387	31st March 1800	John Horatio Savigny.
Improvements applicable to the manufacture of surgical instruments and other purposes.	2440	21st Aug. 1800	Joseph Egg.
Measuring-glasses for compounding medicines -	2511	5th June 1801	Timothy Lane.
Machinery for manufacturing wooden pill-boxes -	3192	23rd Jan. 1809	James Goddard.
Manufacture of lint - - - -	3636	15th Jan. 1813	William Bundy.
Plan for making pill and other small boxes - -	5712	29th June 1813	{ James Penny. Joseph Kendall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEDICAL TREATMENT, &amp;c.—continued.</b>			
Plan for making pill and other small boxes - - -	3840	8th Sept. 1814	{ James Penny. Joseph Kendall.
Syringes [ <i>for injecting medicines</i> ] - - - -	4464	11th July 1820	John Read.
Manufacturing surgical instruments - - - -	4462	20th July 1820	Henry Botfield Thomason.
Exhausting, injecting, or condensing pumps or syringes, and apparatus connected therewith;—applicable to other purposes.	5061	18th Dec. 1824	John Weiss.
Administering medicines by the agency of steam or vapour [ <i>bath for administering medicines by means of an odorous vapour</i> ].	5336	18th Feb. 1826	Charles Whitlaw.
Making pill and other boxes from pasteboard, paper, } or other materials;—applicable to other purposes }	6303	8th Sept. 1832	{ John Osborne Mosley. George Bell.
Form and arrangement of parts of an apparatus for injecting enemata.	6345	17th Dec. 1832	John Hornby Maw.
Pumps and instruments for conveying fluids into and withdrawing them from cavities in human and other animal bodies.	6843	2nd June 1835	Joseph Nye.
Hydraulic pump, douche, or jet d'eau, applicable to all the purposes of lavement in medical operations.	7752	30th July 1838	Andrew Paul.
Mode of rolling and cutting lozenges; also cutting gun-wads, wafers, and other similar articles [ <i>cutting out the tops and bottoms of pill-boxes</i> ].	9069	8th Sept. 1841	Joseph Drew, junior.
Enveloping medicine - - - - -	9906	12th Oct. 1843	Moses Poole.
Making comfits, confectionery, and lozenges; machinery and apparatus for making the same or any other article to which the same may be made applicable [ <i>stamping pill-box bottoms</i> ].	11,211	19th May 1846	George Duncan.
Manufacture of epithems used for medical and surgical purposes.	11,213	20th May 1846	Alfred Markwick.
Instrument for drawing off the milk from the breasts of women, and for raising and protecting the nipple both before and after childbirth.	11,518	7th Jan. 1847	Pierre Louis Thimott Thiers.
Apparatus for manufacturing capsules for enclosing medicinal preparations, or other liquid or solid substances.	11,708	22nd May 1847	William Edward Newton.
Capsules or small cases for protecting matters enclosed therein from the air; materials used in the manufacture of the same.	11,987	2nd Nov. 1847	James Murdoch.
Manufacture of capsules; application of designs } to certain descriptions of surfaces - - - }	11,981	30th Nov. 1847	{ William Betts. George William Jacob.
Manufacture of pill-boxes - - - - -	11,989	8th Dec. 1847	John Hackett.
Apparatus for drawing fluids from the human or animal body.	12,612	15th May 1849	Moses Poole.
Lint and linting machines - - - - -	12,859	24th Nov. 1849	William Garnett Taylor.
Surgical instruments [ <i>vessels of gutta-percha to assist excretions</i> ] - - - - -	13,674	24th June 1851	{ Richard Edward Hodges. William Brockedon.
Surgical instruments, and other like cutting instruments.	13,627	22nd Nov. 1851	Frederick Weiss.
<b>VII.—Artificial Limbs.</b>			
Instrument to supply the place of an amputated leg, constructed so as to perform the functions of the natural limb in all its joints.	1724	20th Jan. 1790	Thomas Mann.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEDICAL TREATMENT, &amp;c.—continued.</b>			
Artificial leg and arm - - - - -	2448	15th Nov. 1800	James Potts.
Construction of artificial legs - - - - -	3398	31st Oct. 1810	Thomas Mann.
Construction of artificial legs and feet made of leather and wood, acting by a lever and a spiral spring.	4039	1st June 1816	William Shand.
Artificial leg, arm, and hand - - - - -	4118	8th May 1817	Henry Wilmes.
Manufacture of artificial limbs - - - - -	12,444	27th Jan. 1849	Richard Archibald Brooman.
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<b>VIII.—Anatomical Preparations, &amp;c.</b>			
Processes for embalming the dead, and for preserving corpses for anatomical purposes.	7858	6th Nov. 1838	Luke Hebert.
Manufacturing pathological, anatomical, zoological, geological, botanical, and mineralogical representations in relief, and arranging them for use.	10,229	18th June 1844	Charles William Graham.
Preserving animal substances from decay, by means of a composition applicable to the cure of certain diseases [ <i>preserving corpses or anatomical specimens by a solution of the salts of zinc</i> ].	13,739	4th Sept. 1851	Pierre Armand le Comte de Fontainemoreau.
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<b>IX.—Dental Surgery and Treatment.</b>			
<b>1. (Cleaning and preserving Teeth.)</b>			
Tincture for cleaning and preserving the teeth, and curing the toothache.	599	9th Feb. 1744	Thomas Greenough.
Essence of pearl, and pearl dentifrice, for preserving the teeth and gums, and remedying the disorders to which they are subject.	1081	22nd Jan. 1773	Jacob Hemet.
Chemical preparation for curing scurvy on the gums, fastening the teeth, causing the gums (when parted from the teeth) to grow up, and giving them a firmness and beautiful red colour; also for stopping the progress of teeth which are decaying, and preventing their being offensive; " <i>Essence of myrrh.</i> "	1796	18th March 1791	Richard Stringer.
Preservative lotion and dentifrice, for preserving and beautifying the teeth and gums; " <i>British imperial lotion and dentifrice.</i> "	2452	20th Nov. 1800	Joseph Sigmond.
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<b>2. (Extracting and fixing Teeth.)</b>			
Instrument to extract teeth in a perpendicular direction.	2309	23rd April 1799	Robert Simpson.
Extracting and fixing teeth - - - - -	5219	16th July 1825	John Palmer de la Fons.
Instruments for extracting teeth - - - - -	7383*	1st June 1837	Richard Oke Millett.
Operating in dental surgery; apparatus or instruments to be used therein.	12,133	20th April 1848	Henry Gilbert.
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<b>3. (Artificial Teeth.)</b>			
Covering artificial teeth, also decayed natural teeth and gums, with a composition that will not corrode, stain, or lose its colour.	1199	22nd Oct. 1778	Francis Gillanders.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MEDICAL TREATMENT, &amp;c.—continued.</b>			
Composition for the purpose of making artificial teeth, either single, double, or in sets; also springs for fastening the same.	1903	11th May 1791	Nicholas de Bois de Chemant.
Applying and attaching artificial and natural teeth -	7954	29th Jan. 1839	William Lukyn.
Making artificial teeth, gums, and palates - -	10,538	3rd March 1845	John Tomes.
Plates or pieces for the roof and gums of the mouth, for attaching artificial teeth thereto.	11,154	31st March 1846	William Henry Moggridge.
Artificial palates, teeth, and gums; machinery employed in their manufacture.	11,209	15th May 1846	Henry Valentine Bartlett.
Constructing and fixing artificial teeth and gums; supplying deficiencies of the mouth [ <i>by the application of gutta-percha and the employment of electro-gilding</i> ].	12,241	15th Aug. 1848	Edwin Thomas Truman.
Making artificial teeth; also beds and palates for teeth.	12,717	1st Aug. 1849	George Fellows Harrington.
Manufacture of artificial palates and gums; mode of setting or fixing natural or artificial teeth.	13,040	15th April 1850	Cuthbert Dinsdale.
 <b>METALS AND METALLIC SUBSTANCES.</b>			
<b>I.—Manufacturing and Forging.</b>			
1. ( <i>Crushing, separating, smelting, making malleable.</i> )			
Smelting iron ore and making cast iron or bar iron with sea-coal or pit-coal in furnaces with bellows.	18	22nd Feb. 1621	Lord Dudley.
Melting iron ore, and making the same into cast works and bars, with sea-coal and pit-coal - }	38	20th March 1627	{ William Astell. John Copley. Francis Crofts.
Melting, making, fining, and burning iron, lead and tin, and other things, with peat or turf, prepared for the purpose.	51	13th Aug. 1630	Edward Ball.
Separating gold and silver from tin, lead, and copper, and for that purpose to set up engines and instruments.	53	11th Nov. 1630	David Ramsey.
Melting lead, tin, iron and copper ore with pit-coal, peat, and turf.	61	7th Dec. 1632	Edward Jorden.
Making, melting and smelting iron, brass, steel, copper or other metals, with a fire of sea-coal, pit-coal or stone-coal, without charking or mixing the same with charcoal, or by use of any other fuel except wood or fuel made from wood.	91	22nd April 1636	Sir Phillibert Vernatt, Knt.
Melting and casting copper into ingots, so as to make it tough, and drawing the same.	98	6th July 1636	George Danby.
Preparing any manner of ore so as by water to separate the silver therefrom without melting.	108	28th July 1637	Captain Thomas Whitmore.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Making good and merchantable tough iron, according to the nature of the mine, with sea-coal or peat, and with one-fifth of the expense of charcoal as now used - - - - -	113	12th Dec. 1637	{ Sir Phillibert Vernatt, Knt. Captain Thomas Whitmore.
Making iron into any sort of cast works with sea or pit coals, peat or turf, and with the same to make the said iron into plate-works or bars; also to dig, open, search and work, wash, roast, stamp and melt, all manner of mines or ores of gold, silver, copper, and lead holding silver or mixed with silver or quicksilver - - - - -	117	2nd May 1638	{ Sir George Horsey, Knt. David Ramsey. Roger Foulke. Dudd Dudley.
Smelting lead ore - - - - -	119	18th July 1638	Fredericke Wagoner.
Melting iron and other metals with turf and peat, charked.	170	30th May 1673	Sir Nicholas Stanning, Knt.
Smelting lead and other ores with sea-coal and pit-coal.	192	8th Dec. 1676	Samuel Hutchinson.
Melting down, extracting, and reducing iron and all metals and minerals, by the use of pit-coal and sea-coal.	198	25th Oct. 1677	Frederick De Blewston.
Smelting metallic ores with sea-coal, peat, or other mixed fuel, instead of wood.	206	12th Nov. 1678	The Right Honourable George Lord Viscount Grandison.
Melting or smelting copper ore and tin ore in furnaces, with sea-coal and pit-coal.	239	28th Aug. 1684	Henry Howard.
Furnaces, vessels, ways and means, for extracting gold, silver, copper, lead and tin from their ores and minerals, and reducing them into their respective metals, by which means gold and silver are taken out of lead and its ore without the lead being diminished in value - - - - -	253	25th Jan. 1687	{ Robert Clerke. Robert Brent. Talbot Clerke.
Melting lead ore in close or reverberatory furnaces with pit-coal and sea-coal, turf, peat, or other mixed fuel instead of wood.	264	26th June 1690	John Hodges.
Engine for pounding minerals - - - - -	271	27th Aug. 1691	John Tyzacke.
Engine for pounding or stamping mineral ores -	286	22nd Jan. 1692	{ Charles Morton. Samuel Weale.
Use of sea coal and pit-coal for smelting iron ore, stone, flags, cinders, old iron, and other materials.	301	29th Feb. 1692	Thomas Addison.
Engine for grinding and pounding minerals and other hard substances - - - - -	311	17th Jan. 1693	{ George Nation. John Dewee. Thomas Puckle.
Smelting or melting down tin ore, and making the same into merchantable tin, by the use of pit-coal and sea-coal, without charcoal or wood.	334	27th April 1694	John Watkins.
Separating silver from lead in a close furnace and with sea-coals.	351	4th Sept. 1697	Robert Lydall.
Smelting ores in the Hungarian manner, with or without bellows - - - - -	363	11th May 1699	{ John Hill. Oliver Hill.
Smelting black tin, and making the same into merchantable white tin.	368	13th June 1702	Robert Lydall.
Separating gold and silver from tin, and melting and smelting black tin ore into good merchantable white tin.	374	23rd July 1705	Robert Lydall.
Fluxing, separating or reducing black tin into white tin by means of alkaline and saline mixtures.	406	30th June 1716	Francis Moults.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Separating iron from iron-stone or iron-mine by means of sea or pit-coal, in an air-furnace, and thereby rendering the same as good as iron made with charcoal, and at the same time effecting a saving in the consumption of wood.	489	21st Jan. 1727	Francis Wood.
Smelting or melting down iron ore, and refining and drawing out the same into bar iron by means of fuel different from any that has before been used for the purpose.	490	9th Feb. 1727	William Fallowfield.
Manufacture of copper ores, and extracting silver therefrom - - - - - }	495	3rd Feb. 1728	{ Benjamin Lund. Francis Hanksbee.
Making raw iron or iron metal prepared in an air-furnace with pit-coal, immediately from the ore.	502	18th Sept. 1728	William Wood.
Improving, graduating and perfecting metals and their ores by means of prepared salts, sulphurs, and other ingredients.	524	7th Dec. 1730	George Roberts.
Fluxing mundic into a metal and extracting silver from it.	532	8th Oct. 1731	Elizabeth Coppin.
Making raw iron or iron metal from iron-stone or ore, in air-furnaces with pit-coal.	553	20th March 1736	Kingsmill Eyre.
Making tough and brittle metal from sulphureous minerals.	569	10th Sept. 1739	John Champion.
Mill for grinding mineral ores - - - - -	715	27th May 1757	John Rowe.
Making pig iron from one certain material - -	822	23rd Jan. 1765	John Scott.
Smelting gold, silver, copper and its ores, and the waste sweepings and slags drawn therefrom by grinding, washing, and working the same.	894	8th March 1768	Robert Albion Cox.
Method of making mancelas with cast iron.	979	2nd Jan. 1771	John Turton.
Machine and apparatus to extract metals from ores, and collect the particles when volatilized by means of fire, water, air, and steam.	1041	21st April 1773	John Barber.
Ingredients which being mixed with metallic earths or clays, and poor, flinty, sulphurous, and stubborn ores of lead and copper, and slag, and brought into a state of fusion, occasion the metallic particles thereof to be precipitated, and will smelt and extract double the usual quantity of metal from a like quantity of the same materials, by means of a high blast furnace, blown with two or three large or hollow iron cylindrical bellows, worked by a water-wheel.	1084	27th Oct. 1774	Matthew Sanderson.
Machine for separating metal from slags - -	1157	10th June 1777	Francis Thomas.
Smelting copper ore - - - - -	1191	7th May 1778	Thomas Williams.
Calcining or burning poor copper and lead ores -	1216	27th March 1779	William Roe.
Machine for separating gold and silver from earth, scorie and impurities, by trituration, mercury, and amalgams.	1383	28th April 1783	Charles Baron De Chastel.
Improvements applicable for smelting metals and their ores.	1485	14th June 1785	James Watt.
Machine worked by wind for stamping ores - -	1588	1st Feb. 1787	Benjamin Hearne.
Conveying the heat arising from the fires of coke ovens, and adapting the same to calcining and fusing ores.	1689	23rd June 1789	The Right Hon. Henry Seymour Conway.
Calcining ores by the fires in steam-engine boilers -	1758	8th July 1790	Roger Wearn.
Facilitating metallurgical operations by inflammable air.	1833	31st Oct. 1791	John Barber.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Bringing iron ore and calx of iron into a metallic state, without first rendering the same fluid.	1869	18th April 1792	Samuel Lucas.
Separating iron from iron-stones, and ores of that metal; smelting it into pig or cast iron; also reducing or refining it into malleable iron.	1891	19th June 1792	William Fullarton.
Fusing metal ores and calces of metals - - -	1915	30th Oct. 1792	Edward Lucas.
Smelting iron-stone, iron ore, and other metallic ores and the calces thereof, by steam, air, and fire; impregnating the same with inflammable air, thereby producing a tough metal.	1928	22nd Dec. 1792	John Barber.
Making cast metal or pig iron from the ore for the purpose of making it into bar or malleable iron.	1993	2nd June 1794	John Wilkinson.
Machine for washing or separating emery, white-lead, colours, and ores.	2009	29th Aug. 1794	Matthew Kemp.
Making zinc - - - - -	2315	28th May 1799	Henry Browne.
Dividing hard substances; machinery for the purpose.	2372	4th Feb. 1800	Samuel Miller.
Processes applicable to the manufacture of metals from the ore, into bars, ingots or otherwise, and to the completion of the various articles or utensils usually made of such metals.	2447	13th Nov. 1800	David Mushet.
Extracting lead and other metals from regulus and regule.	2680	10th Feb. 1803	William Henry Clayfield.
Making pig-iron and cast-iron from iron-stone, iron mine, and iron-ore; re-melting, preparing, and refining iron by blast, and making the same into bars, by using raw stone, coal, and culm.	2775	23rd June 1804	Edward Martin.
Making pig-iron from the ore, which when made into bar-iron, equals that from Sweden.	3097	23rd Jan. 1808	John Wilkinson.
Setting pans for melting lead, tin, pewter, and other metals of easy fusion, and discharging them when full.	3101	26th Jan. 1808	Thomas Preston.
Melting and using malleable wrought iron or steel -	3149	6th July 1808	William Proctor.
Vessels for melting metals - - - - -	3296	1st Feb. 1810	David Cock.
Preparing ore of cobalt for various purposes - -	3486	9th Sept. 1811	William Strachan.
Improvements in iron in all its various stages -	3569	26th May 1812	Jeremiah Dimmack.
Apparatus for separating metallic and other substances from their ores or other matters combined or united with them; application of the same.	3612	31st Oct. 1812	William Evetts Sheffield.
Smelting copper ore - - - - -	3630	19th Dec. 1812	John Lewis.
Certain process for extracting arsenic from the ores or other substances in which it is contained, in a purer state than it is at present procured - }	3667	15th March 1813	{ Richard Edwards. William Williams.
Smelting copper ore - - - - -	3723	23rd July 1813	John Lewis.
Smelting iron - - - - -	3825	26th July 1814	Anthony Hill.
Making copper and its compounds, and other metallic substances.	3843	23rd Sept. 1814	William Evetts Sheffield.
Smelting iron, lead, or copper ores, and other minerals or metallic substances, and manufacturing iron.	3901	29th March 1815	Richard Smith.
Extracting gold and silver from the cinders of gold } refines and other substances, by machinery - }	3923	8th June 1815	{ Julien Joret. John Postel. Lewis Comptize.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Making copper and other metals - - - -	3938	12th July 1815	{ William Beavan. Martin Beavan.
Manufacturing iron - - - - -	3944	27th July 1815	David Mushet.
Cylindrical gold and silver sweep and washing machine.	3983	20th Feb. 1816	Henry De la Rue.
Making soft lead out of slag-lead - - - -	4085	21st Nov. 1816	Walter Hall.
Extracting iron from ore - - - - -	4397	20th Sept. 1819	John Thompson.
Puddling iron - - - - -	4634	9th Jan. 1822	Richard Summers Harford.
Manufacture of iron from certain slags and cinders, produced in the working or making of that metal.	4697	20th Aug. 1822	David Mushet.
Manufacturing iron [puddling] - - - - -	4713	18th Oct. 1822	William Jones.
Smelting and calcining various descriptions of ores [by a peculiar construction of furnace].	4743	20th Dec. 1822	William Pass.
Manufacturing iron [by aid of common salt] - -	4958	15th May 1824	Joseph Luckcock.
Making, preparing, or producing spelter or zinc -	5005	7th Oct. 1824	{ Frederick Beneche. Daniel Towers Shears. James Henry Shears.
Extracting certain metals from their ores - -	5174	16th May 1825	John Badams.
Making iron [introducing carburated hydrogen gas into the furnace].	5244	18th Aug. 1825	Philip Taylor.
Machinery for facilitating the extraction of diamonds and other precious stones, also gold, silver, and other metals from the ore, the earth, or the sand; —applicable to other purposes [by pounding and washing].	5428	13th Dec. 1826	Charles Harsleben.
Calcining and smelting or extracting metals and semi-metals from ores and other matters containing them.	5467	20th Feb. 1827	William Jefferies.
Preparing for smelting, and smelting ores and other substances containing metals, or extracting metal from such ores and substances.	5478	27th March 1827	Aristides Franklin Mornay.
Smelting and making iron - - - - -	5598	2nd Jan. 1828	Thomas Botfield.
Smelting or obtaining metallic copper from copper ore.	5676	17th July 1828	Joseph Jones.
Making iron, applicable at the smelting of the ore, and at subsequent stages up to the completion of the bars.	5779	30th March 1829	Josias Lambert.
Making iron, applicable at the smelting of the ore, and at subsequent stages up to the completion of the bars.	5898	4th Feb. 1830	Josias Lambert.
Machinery for separating lead and other ores from earthy and other substances, and intended to supersede the operation called jigging.	5935	28th April 1830	Thomas Petherick.
Manufacture of iron - - - - -	6207	22nd Dec. 1831	John Samuel Dawes.
Making and smelting pig-iron - - - - -	6211	17th Jan. 1832	Moses Teague.
Machinery and apparatus for separating copper and lead, and other ores, from earthy and other substances - - - - -	6239	8th March 1832	{ Thomas Petherick. John Filmore Kingston.
Manufacture of iron - - - - -	6374	29th Jan. 1833	John Samuel Dawes.
Reducing iron ore and other materials containing iron, to what is called in the iron trade "finers."	6379	31st Jan. 1833	Josiah John Guest.
Separating silver from lead - - - - -	6497	28th Oct. 1833	Hugh Lee Pattinson.
Smelting argentiferous ores - - - - -	6853	22nd June 1835	James Michell.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c. —continued.</b>			
Smelting ironstone or iron ore - - - -	6901	8th Oct. 1835	Charles Pierre Devaux.
Manufacture of iron, by the application of certain known materials; preparing such materials; recovery of products in manufacturing iron.	6948	9th Dec. 1835	John Samuel Dawes.
Process of obtaining copper from copper ores - -	6965	22nd Dec. 1835	Nicholas Troughton.
Apparatus for puddling iron - - - -	7117	13th June 1836	Charles Schafhautl.
Manufacturing iron - - - - -	7142	4th July 1836	John Isaac Hawkins.
Manufacture of iron - - - - -	7195	28th Sept. 1836	George Crane.
Process in the iron manufacture - - - -	7272	11th Jan. 1837	Henry Adcock.
Manufacturing iron - - - - -	7448	20th Oct. 1837	Edward François Joseph Duclos.
Manufacture of iron - - - - -	7518	19th Dec. 1837	Neal Clay.
Manufacture of zinc, copper, tin, and antimony -	7662	31st May 1838	Edward François Joseph Duclos.
Manufacturing iron - - - - -	7693	18th June 1838	William Gossage.
Manufacture of iron - - - - -	7727	10th July 1838	William Barnett.
Manufacture of iron - - - - -	7762	3rd Aug. 1838	Charles Bourjot.
Making iron - - - - -	7778	21st Aug. 1838	{ Richard Bradley. William Barrows. Joseph Hall.
Process of obtaining copper from copper ores - -	7779	21st Aug. 1838	Nicholas Troughton.
Process of melting iron ores - - - -	7828	11th Oct. 1838	Charles Sanderson.
Manufacturing zinc - - - - -	7878	20th Nov. 1838	Harrison Grey Dyar.
Treating massicot, litharge, and other compounds of lead, for the purpose of obtaining therefrom silver and certain other products - - - -	7895	6th Dec. 1838	{ John Chisholm. Martin Hippolite Beller- nois.
Smelting copper ore - - - - -	7994	6th March 1839	Charles Schafhautl.
Reducing metallic ores - - - - -	8020	3rd April 1839	{ Hugh Lee Pattinson. William Septimus Losh.
Manufacture of iron - - - - -	8021	5th April 1839	Josiah Marshall Heath.
Smelting and extracting metals from copper and other ores.	8072	22nd May 1839	William Jefferies.
Obtaining copper from ores - - - - -	8075	22nd May 1839	Nicholas Troughton.
Manufacture of zinc - - - - -	8076	22nd May 1839	Nicholas Troughton.
Roasting copper - - - - -	8127	22nd June 1839	Edward Brown.
Obtaining metal from pyrites or mundic - - -	8128	22nd June 1839	Joseph Jennings.
Obtaining copper from copper slag - - - -	8151	13th July 1839	Thomas Bell.
Manufacture of iron - - - - -	8206	26th Aug. 1839	John Augustus Tulk.
Obtaining copper and other metals from metallic ores.	8374	5th Feb. 1840	William Isaac Cookson.
Manufacture of iron - - - - -	8459	31st March 1840	William Neale Clay.
Manufacture of iron - - - - -	8479	16th April 1840	Samuel Marlow Banks.
Smelting lead ores - - - - -	8483	23rd April 1840	Jonathan Sparke.
Manufacture of iron and other metals - - -	8518	28th May 1840	{ Sir Josiah John Guest. Thomas Evans.
Obtaining copper, spelter and other metals, from ores.	8557	1st July 1840	William Jefferies.
Obtaining silver from ores and other matters containing it.	8575	27th July 1840	Francis Todd.
Manufacture of iron - - - - -	8665	22nd-Feb. 1841	Thomas William Booker.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Process for obtaining zinc and lead from their respective ores; calcination of metallic bodies.	8890	22nd March 1841	AnthonyTheophilusMerry.
Manufacture of iron - - - - -	8935	24th April 1841	{ Lancelot Powell. Robert Ellis.
Manufacture of iron - - - - -	8959	14th May 1841	{ James Gregory. William Green.
Dressing ores and separating metals from other substances.	9135	2nd Nov. 1841	William Brunton.
Balling and blooming iron - - - - -	9151	11th Nov. 1841	George Allarton.
Manufacture of copper - - - - -	9154	11th Nov. 1841	Edward Joseph François Duclós de Boussois.
Smelting copper ores - - - - -	9218	13th Jan. 1842	James Jons.
Dressing ores and separating metals from other substances.	9351	19th May 1842	William Brunton.
Manufacture of iron - - - - -	9373	31st May 1842	Louis Nicolas de Meek- enheim.
Manufacture of copper - - - - -	9429	29th July 1842	Thomas Bell.
Manufacture of iron - - - - -	9495	20th Oct. 1842	James Palmer Budd.
Treating ores and other minerals, and obtaining products therefrom.	9496	20th Oct. 1842	William Longmaid.
Separating silver and other metals from their compounds.	9501	27th Oct. 1842	John Mullins.
Treating or reducing ores of zinc - - - - -	9591	14th Jan. 1843	{ Henry Hussey Vivian. William Gossage.
Manufacturing iron - - - - -	9617	31st Jan. 1843	George Benjamin Thorneycroft.
Manufacture of iron - - - - -	9684	16th March 1843	Angier March Perkins.
Extracting copper, iron, lead, bismuth, and other metals or minerals, from tin ore.	9692	11th April 1843	John Micheil.
Obtaining copper from copper ores;—applicable to working other metals contained in copper ores.	9748	30th May 1843	William Newton.
Manufacture of lead, tin, tungsten, copper and zinc, from ores, slags, and other products.	9764	10th June 1843	Edward Joseph François Duclós de Boussois.
Dressing ores requiring washing - - - - -	9800	23rd June 1843	Nicholas Troughton.
Separating certain metals when in certain states of combination with each other.	9909	18th Oct. 1843	Richard Janion Nevill.
Construction of pots or vessels used in the manufacture of zinc, and in other manufactures; treatment of ores of zinc in the process of manufacturing zinc.	9912	18th Oct. 1843	James Graham.
Manufacture of iron - - - - -	9946	18th Nov. 1843	Arthur Wall.
Apparatus for dressing ores - - - - -	9964	25th Nov. 1843	Alexander Vivian.
Extracting metals from ores and other compounds; obtaining other products from such ores or compounds.	9974	5th Dec. 1843	William Newton.
Treating copper ores;—partly applicable to other ores - - - - -	9989	28th Dec. 1843	{ Edward Budd. William Morgan.
Manufacture of copper, tin, zinc, and peroxide of iron.	10,004	1st Jan. 1844	William Longmaid.
Manufacture of iron - - - - -	10,038	8th Feb. 1844	{ Thomas Southall. Charles Crudgington.
Preparation of zinc - - - - -	10,100	14th March 1844	William Godfrey Kneller.
Manufacture of copper and other metals - - -	10,159	27th April 1844	Arthur Wall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Manufacture of iron - - - -	10,204	25th May 1844	Charles Low.
Washing products evolved from furnaces - -	10,218	4th June 1844	Paul Griffiths.
Manufacture of iron - - - -	10,233	21st June 1844	Thomas Lever Rushton.
Manufacture of iron - - - -	10,236	24th June 1844	Rees Davies.
Obtaining copper from ores - - - -	10,342	10th Oct. 1844	William Henry Ritchie.
Treating mineral waters to obtain products therefrom; separating metals from other matters [obtaining copper and other metals by agency of a current of electricity].	10,362	22nd Oct. 1844	James Napier.
Apparatus for dressing ores - - - -	10,378	2nd Nov. 1844	William Brunton.
Manufacture of copper and other metals - -	10,441	18th Dec. 1844	Arthur Wall.
Manufacture of iron - - - -	10,470	16th Jan. 1845	John James Osborne.
Manufacture of iron - - - -	10,475	16th Jan. 1845	James Palmer Budd.
Manufacture of zinc, antimony, and brass - -	10,524	17th Feb. 1845	James Graham.
Separating metals from each other, and from certain combinations with other substances.	10,614	15th April 1845	John Taylor.
Manufacture of iron - - - -	10,651	3rd May 1845	Charles Attwood.
Separating oxydes from metals and metallic substances.	10,679	22nd May 1845	Peter Armand le Comte de Fontainemoreau.
Separating metals from other matters [see patent 10,362].	10,684	22nd May 1845	James Napier.
Treating sulphurous ores and other minerals; obtaining products therefrom.	10,797	4th Aug. 1845	William Longmaid.
Treating certain metallic ores, and refining the products therefrom.	10,805	7th Aug. 1845	Frederick Bankart.
Manufacture of iron - - - -	10,831	18th Sept. 1845	Charles Hodgson Horsfall
Treating ores, and separating from them the metals which they contain.	10,834	18th Sept. 1845	James Polkinghorne.
Dressing ores requiring washing - - - -	10,871	10th Oct. 1845	{ Alexander Jamieson. John Frederick Lundholm.
Obtaining products from certain ores and other compounds of certain metals.	10,976	4th Dec. 1845	William Gossage.
Treatment of zinc ores for producing zinc ingots; applicable to the reduction of other ores and metals.	11,022	24th Dec. 1845	Daniel Towers Shears.
Manufacture of iron - - - -	11,067	31st Jan. 1846	George Hinton Bovil.
Manufacture of iron - - - -	11,078	11th Feb. 1846	James Palmer Budd.
Working certain sulphurets to transform them into metal or oxydes, and to collect the latter; collecting oxydes from oxydised ores equivalent to these sulphurets [making zinc].	11,123	11th March 1846	Jean Joseph Ernest Baruel.
Smelting copper ores - - - -	11,301	20th July 1846	James Napier.
Smelting copper ores - - - -	11,307	23rd July 1846	Thomas Bell.
Treatment of zinc ores for the purpose of producing zinc ingots; applicable to the reduction of other ores and metals.	11,534	19th Jan. 1847	Daniel Towers Shears.
Manufacture of zinc - - - -	11,591	24th Feb. 1847	Alphonse René le Mire de Normandy.
Smelting copper and other ores - - - -	11,600	2nd March 1847	James Napier.
Smelting copper and other ores - - - -	11,635	23rd March 1847	François Stanislas Meldon de Sussex.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Manufacture of iron - - - -	11,853	8th April 1847	Patrick Moir Crane.
Manufacture of iron - - - -	11,759	19th June 1847	William Vickers.
Manufacture of cast-metal, iron and steel - -	11,810	20th July 1847	Moses Poole.
Separating copper and other metals from their ores -	11,851	2nd Sept. 1847	Henry Davy.
Manufacture of metals from their ores [ <i>subjecting ores to the joint action of heat and electricity</i> ].	11,858	9th Sept. 1847	Joseph Clinton Robertson.
Machinery for blooming iron - - - -	11,908	14th Oct. 1847	Alfred Vincent Newton.
Separating oxydes from their compounds and each other; apparatus for the purpose.	11,910	14th Oct. 1847	Arthur Wall.
Manufacture of zinc, copper, tin, and other metals -	11,939	4th Nov. 1847	Charles Low.
Smelting copper and other ores - - - -	11,966	16th Nov. 1847	William Birkmyre.
Apparatus for dressing ores or minerals - -	11,967	16th Nov. 1847	William Brunton.
Manufacture of metals - - - -	11,971	18th Nov. 1847	Alexander Parkes.
Treating zinc ores - - - -	12,001	22nd Dec. 1847	{ Charles Andre. Felix Rochaz.
Treating lead and other ores - - - -	12,102	22nd March 1848	William Henderson.
Manufacture of iron - - - -	12,128	18th April 1848	Charles Attwood.
Manufacture of metals - - - -	12,142	27th April 1848	Alexander Parkes.
Obtaining copper from copper ores [ <i>smelting</i> ] -	12,162	26th May 1848	James Parker Penny.
Preparing and cleaning mineral and other substances [ <i>dressing metallic ores</i> ].	12,184	13th June 1848	Charles Henry Capper.
Apparatus for use in processes for the manufacture of certain metals.	12,186	13th June 1848	William Hunt.
Obtaining metals and other products from compounds; obtaining other products by the use of compounds containing metals.	12,193	24th June 1848	William Hunt.
Smelting and refining lead ores - - - -	12,256	28th Aug. 1848	{ William Young. Henry Burgess Young.
Manufacture of iron - - - -	12,268	12th Oct. 1848	John Davie Morris Stirling.
Manufacture of copper and other metals - - -	12,322	9th Nov. 1848	James Napier.
Manufacture of metals; treatment of metallic matters with various substances - - - -	12,325	11th Nov. 1848	{ Alexander Parkes. Henry Parkes.
Smelting copper ore - - - -	12,389	28th Dec. 1848	Charles Low.
Smelting copper - - - -	12,393	28th Dec. 1848	{ John Mitchell. Henry Alderson. Thomas Warriner.
Manufacture of iron; machinery for producing the same.	12,457	8th Feb. 1849	Laurence Hill.
Treatment of certain mineral waters to obtain products therefrom; obtaining certain metals from certain compounds containing those metals; also obtaining other products by the use of certain compounds containing metals [ <i>precipitating copper from cupreous waters, separating zinc, lead, copper, silver and gold, from ores in which they exist together</i> ].	12,497	28th Feb. 1849	Thomas Rowlandson.
Manufacturing iron - - - -	12,508	7th March 1849	{ James Baird. Alexander Whitelaw.
Smelting copper or other ores - - - -	12,521	14th March 1849	Francis Hay Thomson.
Manufacture of certain metals; treating and working metals and alloys, and application of the same to various purposes.	12,534	26th March 1849	Alexander Parkes.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Separating and assorting solid materials or substances of different specific gravities [ <i>crushing ores between several pairs of rollers, assorting the lumps, drying, screening, and fanning the pulverised ore</i> ].	12,557	2nd April 1849	Alfred Vincent Newton.
Manufacture of certain articles in lead - - -	12,624	29th May 1849	David Smith.
Production and manufacture of iron - - -	12,687	4th July 1849	Sir Francis Charles Knowles.
Manufacture of iron - - - - -	12,722	1st Aug. 1849	Benjamin Thompson.
Treating ores and other matters containing metal, and obtaining products therefrom.	12,744	16th Aug. 1849	James Young.
Preparing for pulverization flint, ores, minerals, sands, and other substances - - - - }	12,780	27th Sept. 1849	{ William Browne. Richard Rowe Veale.
Manufacture of iron - - - - -	12,793	5th Oct. 1849	Charles Attwood.
Manufacture of a certain pigment [ <i>subliming the arsenic contained in zinc</i> ].	12,809	29th Nov. 1849	Charles Barlow.
Smelting iron and other ores - - - - -	12,928	15th Jan. 1850	Andrew Barclay.
Obtaining cadmium and other metals and products from ores or matter containing them - - }	12,970	21st Feb. 1850	{ John Stephen Woolrich. John James Russell. Thomas Henry Russell.
Separating and assorting solid materials or substances of different specific gravities [ <i>crushing copper ore between several pairs of rollers, passing it when pulverised, through revolving sieves having loose blocks of india-rubber in them to prevent the meshes becoming clogged; the pulverised ore whilst falling from the sieves is exposed to the action of a fan to separate the finer portions, and screens are placed between the fan and the materials to equalise the blast</i> ].	12,971	21st Feb. 1850	Alfred Vincent Newton.
Manufacture of arsenic - - - - -	12,982	27th Feb. 1850	Brereton Todd.
Treating copper and other ores, and obtaining products therefrom [ <i>treatment of iron ores</i> ].	13,001	9th March 1850	Thomas Irving Hill.
Manufacture of zinc; apparatus employed therein [ <i>smelting</i> ].	13,053	20th April 1850	Richard Archibald Brooman.
Smelting and treating certain metals - - -	13,118	11th June 1850	Alexander Parkes.
Manufacture of iron - - - - -	13,140	19th June 1850	{ Robert Heath. Richard Handley Thomas.
Obtaining certain metals from compounds containing such metals; obtaining other products by the use of certain compounds containing metals.	13,177	17th July 1850	William Herbert Gosage.
Obtaining, preparing and applying zinc and other volatile metals, and the oxydes thereof,—applicable to the preparation or manufacture of certain metals or alloys of metal.	13,192	23rd July 1850	William Edward Newton.
Mills for grinding, splitting, pulverising, and crushing ore and other hard substances.	13,214	6th Aug. 1850	William Crosskill.
Smelting iron and other ores; machinery connected therewith.	13,245	5th Sept. 1850	Andrew Barclay.
Manufacture of iron and other metals - - -	13,262	26th Sept. 1850	Henry Houldsworth.
Extracting silver from argentiferous minerals -	13,283	10th Oct. 1850	Aldolf Frederick Gurli.
Apparatus for smelting ores and minerals, and making pig-iron.	13,303	2nd Nov. 1850	Matthew Hodgkinson.
Obtaining products from ores and other matters containing metals [ <i>obtaining copper and zinc</i> ].	13,342	14th Nov. 1850	John Swindells.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Arrangements and apparatus for the treatment and preparation of earths, minerals, &c.	13,376	30th Nov. 1850	John Ainslie.
Machinery used in metal manufacturing - - -	13,490	3rd Feb. 1851	Alexander Alliot.
Moulds for electro-metallurgy - - -	13,513	17th Feb. 1851	Charles Cowper.
Machinery for pumping, forcing and exhausting steam, fluids and gases, and in the adaptation thereof to the saturation, separation, and decomposition of substances [ <i>separating or cleansing metals by centrifugal action</i> ].	13,577	31st March 1851	John Gwynne.
Treating ores and minerals, and obtaining products therefrom.	13,630	10th May 1851	William Longmaid.
Manufacturing iron - - - - -	13,655	3rd June 1851	Isaac Hazlehurst.
Separating silver from other metals - - -	13,675	24th June 1851	Alexander Parkes.
Manufacture of copper, separating other metals therefrom [ <i>adding iron and zinc in the smelting</i> ].	13,746	11th Sept. 1851	Alexander Parkes.
Separating metals from each other and freeing them from impurities [ <i>by the agency of electricity, and by employing vessels divided into compartments by means of porous partitions</i> ].	13,755	25th Sept. 1851	Charles Watt.
Manufacturing iron - - - - -	13,793	30th Oct. 1851	Frederick Crace Calvert.
Obtaining nickel and cobalt - - - - -	13,800	4th Nov. 1851	Henry Hussey Vivian.
Separating substances of different specific gravities [ <i>separating copper from the gangue in which it is contained, by means of a curved pan, to which a rocking motion is given, similar to that imparted to a shovel in the operation called "ranning"</i> ].	13,881	24th Dec. 1851	Alfred Vincent Newton.
Treatment of copper minerals - - - - -	13,882	24th Dec. 1851	Antonio De Sola.
Manufacture of iron; steam apparatus used therein;—partly applicable to evaporative and motive purposes generally.	13,883	27th Dec. 1851	Joseph Stenson.
Crushing gold quartz and metallic ores - - -	13,939	29th Jan. 1852	Isam Baggs.
Obtaining gold - - - - -	13,940	30th Jan. 1852	William Longmaid.
Manufacturing and shaping metals - - - -	13,971	13th Feb. 1852	{ Edmund Morewood. George Rogers.
Treatment of metallic ores, and certain salts and residuary matters, and obtaining products therefrom [ <i>manufacturing zinc and its oxydes and chloride</i> ].	13,987	23rd Feb. 1852	Samuel Boulton.
Obtaining copper from ores - - - - -	13,996	4th March 1852	{ Alfred Trueman. John Cameron.
Separating silver from other metals - - -	13,997	8th March 1852	Alexander Parkes.
Treating ores containing zinc and the products obtained therefrom.	13,999	8th March 1852	James Graham.
Treatment and application of slag or the refuse matter of blast furnaces.	14,013	8th March 1852	Alexander Cunninghame.
Mining operations and machinery connected therewith [ <i>separating gold from quartz or other rocky matrix by fusion or precipitation</i> ].	14,014	8th March 1852	William Pidding.
Machinery for blooming iron - - - - -	14,051	31st March 1852	John Flack Winslow.
Treating matters containing lead, tin, antimony, zinc, or silver, and obtaining such metals or products therefrom.	14,093	28th April 1852	Thomas Richardson.
Obtaining and separating certain metals [ <i>gold and silver from lead and other metals</i> ].	14,103	1st May 1852	Alexander Parkes.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Smelting certain substances containing lead [ <i>the residua obtained from the manufacture of "Pattinson's oxy-chloride of lead"</i> ].	14,104	1st May 1852	Hugh Lee Pattinson.
Manufacture of iron - - - - -	14,167	12th June 1852	Jean Ernest Beauvalet.
Machinery for crushing, pulverizing and grinding stone, quartz, and other substances.	14,187	24th June 1852	Charles James Wallis.
Improvements partly applicable to the reduction of ores by electric agency.	14,198	6th July 1852	Martyn John Roberts.
Machinery for reducing and pulverizing ores, } minerals, stones, and other substances - - }	14,225	15th July 1852	{ Thomas Richards. Samuel Grose.
Machinery for washing and separating ores [ <i>gold from auriferous ores; by washing</i> ].	14,226	16th July 1852	John Hunt.
Separating substances of different specific gravities; machinery and apparatus employed therein [ <i>ore-separating machinery</i> ].	14,228	20th July 1852	Julius Frederick Philipp Ludwig Von Sparre.
Machinery for washing minerals and separating them from other substances [ <i>washing and separating gold from earthy and other matters</i> ].	14,247	31st July 1852	Samuel Starkey.
Extraction of metals from their ores [ <i>by electric currents</i> ].	14,280	26th Aug. 1852	Andrew Crosse.
Purifying tin ores and separating ores of tin from any other minerals [ <i>by using common salt</i> ].	14,305	18th Sept. 1852	John Michell.
Machinery applicable to crushing and pulverizing ores and other hard substances.	14,315	7th Oct. 1852	Solomon Andrews.
Extracting gold and other metals from mineral and earthy substances [ <i>crushing such substances by discharging them from a gun or cannon on to a hard surface</i> ].	14,330	23rd Oct. 1852	Henry Needham Scrope Shrapnel.
Treatment of metals and metalliferous ores - - [ <i>For smelting-furnaces, see "FIREPLACES, &amp;c."</i> ].	14,353	21st March 1853	Joseph Gibbs.
<b>2. (Forging and working.)</b>			
Forging iron and other metals by means of turf and peat, charred.	170	30th May 1673	Sir Nicholas Stanning, Knt.
Forging iron and all metals and minerals by the use of pit-coal and sea-coal.	198	25th Oct. 1677	Frederick De Blewston.
Engine for blowing the bellows and working the hammers in melting and forging iron, copper, and other metals;—applicable to the working of mills and to other uses.	348	24th Jan. 1696	Evan Jones.
Rendering cast iron malleable by means of coals, without coking.	400	27th Jan. 1724	Roger Woodhouse.
Making pig iron malleable, and drawing the same into bars, by the use of the forge-hammer.	505	21st Nov. 1728	John Payne.
Making malleable iron from pig or sow metal -	759	5th Feb. 1761	John Wood.
Making malleable iron from pig metal or sow metal	780	25th Oct. 1762	John Roebuck.
Making fused or cast and cinder iron malleable, } with raw pit-coal - - - - - }	794	29th July 1763	{ John Wood. Charles Wood.
Making pig iron or cast iron malleable in a reverberatory or air-furnace, with pit-coal only - - }	851	17th June 1766	{ Thomas Cranage. George Cranage.
Making malleable iron directly from the ore - -	888	2nd May 1771	John Cockshutt.
Making malleable iron from cast iron or other cast metal, with raw coals or coke, without charcoal, granulations, mixture of fluxes, or other infusions - - - - - }	1054	30th Oct. 1773	{ Richard Jesson. John Wright.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Machine used in the working of steel, iron, brass, and copper, hot or cold.	1194	3rd June 1778	John Talbot.
Making cast iron malleable and suitable for making cannon, wheel-tires, arms to axletrees, anchors, chains, iron mill-work, forge-hammers, bar and chain shot, and iron rollers.	1360	22nd March 1783	George Matthews.
Refining cast or pig iron, and converting the same from a fluid state into wrought or bar iron.	1370	7th May 1783	Peter Onions.
Making bar iron from cast iron by the use of coals or coke, without charcoal.	1396	14th Nov. 1783	Richard Jenson.
Shingling, welding and manufacturing iron and steel, into bars, plates and rods of purer quality and in larger quantity than heretofore, by a more effectual application of fire and machinery.	1420	14th Feb. 1784	Henry Cort.
Reducing or refining cast iron into malleable or wrought iron.	1891	19th June 1792	William Fullarton.
Working metals - - - - -	1851	23rd April 1793	Samuel Bentham.
Reducing and forming pigs and pieces of iron, copper, brass, and other metals, into bars, plates, and hoops.	2244	14th June 1798	John Hazledine.
Rendering cast iron malleable - - - - -	2767	30th May 1804	Samuel Lucas.
Making bar iron by means of coals, culm, and raw-stone.	2775	23rd June 1804	Edward Martin.
Preparing malleable iron for making bars, sheets, and slit-rods, and manufacturing the same into hoop iron; also preparing all other malleable metals.	2888	7th Nov. 1805	John Hartop.
Making rods and hoops from old iron hoops - -	3601	25th Sept. 1812	John Bunn.
Smelting and working iron - - - - -	3625	26th July 1814	Anthony Hill.
Working plated iron or steel into plates, bars, or other articles.	4050	3rd Aug. 1816	John Poole.
Working iron - - - - -	4151	5th Aug. 1817	Anthony Hill.
Making bar or other iron from slag or cinders produced in smelting copper ores and manufacturing copper - - - - -	4248	18th April 1818	{ William Crawshaw. David Mushet.
Manufacture of wrought or malleable iron - -	4536	20th Feb. 1821	James Foster.
Heating processes in the manufacture of bar, rod, sheet, or other malleable iron.	4663	21st March 1822	Richard Summers Harford.
Preparation of iron for the manufacture of chains and chain-cables - - - - -	4774	12th April 1823	{ Daniel Wade Acraman. William Piper.
Combination of machinery for producing various shapes, patterns and sizes, from metals and other materials capable of receiving an oval, round, or other form.	4882	18th Dec. 1823	Pierre Jean Baptiste Victor Gosset.
Manufacturing wrought iron - - - - -	4968	15th June 1824	Richard Hooton.
Apparatus for shaping plates of metal, and for manufacturing articles therefrom.	6203	22nd Dec. 1831	John Christopher Tobias Kreeft.
Manufacturing various articles from a metal not hitherto used for the purpose [ <i>zinc</i> ].	6260	13th April 1832	Benjamin Cook.
Making malleable iron - - - - -	6300	8th Sept. 1832	{ George Jones. James Forster. John Barker. John Jones.
Manufacture of malleable iron - - - - -	6837	13th May 1835	Charles Schafnautl.
Making bar iron or malleable iron - - - - -	6908	22nd Oct. 1835	David Mushet.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Machinery for forging or rolling metal - - -	6995	3rd Feb. 1836	{ Frederick Edward Harvey. Jeremiah Brown.
Preparing wrought iron intended for wheel-tires, rails, and certain other articles.	9298	21st March 1842	Sydney Jessop.
Machinery for forging iron and other substances ["a direct action steam-hammer"].	9382	9th June 1842	James Nasmyth.
Manufacture of malleable iron - - -	9568	22nd Dec. 1842	Joseph Beaman.
Improvements partly applicable to forging metals and other substances.	9850	24th July 1843	James Nasmyth.
Manufacturing or working iron or other metals; machinery connected therewith.	9899	5th Oct. 1843	John George Bodmer.
Machinery for forging metals - - -	10,590	7th April 1845	Alfred Vincent Newton.
Manufacture of plates and vessels of metal and other substances suitable for heating purposes; means of heating the same.	10,784	25th July 1845	William Henry James.
Manufacture of iron into sheets, plates, and other forms - - -	10,859	9th Oct. 1845	{ Edmund Morewood. George Rogers.
Locomotive steam-engines and machinery and apparatus connected therewith [ <i>machinery for forging metals</i> ].	11,199	7th May 1846	Thomas Melling.
Machinery used in manufacturing malleable iron -	11,411	15th Oct. 1846	John Condie.
Manufacture of iron into sheets, plates, and other forms - - -	11,476	7th Dec. 1846	{ Edmund Morewood. George Rogers.
Manufacture of malleable iron - - -	11,723	27th May 1847	Reginald James Blewitt.
Machinery and arrangement thereof for forging metals and other substances.	11,767	26th June 1847	Robert Wilson.
Rolls and machinery used in the manufacture of iron; also rolls and machinery for shaping iron for various purposes.	11,781	3rd July 1847	Jeremiah Brown.
Manufacturing and working iron for various purposes.	11,823	29th July 1847	George Witherell.
Treating and applying wrought iron - - -	11,970	18th Nov. 1847	William Locke.
Preparation of bar iron used in the manufacture of certain kinds of rod iron.	12,047	29th Jan. 1848	William Russell.
Machinery for forging iron - - -	12,074	23rd Feb. 1848	{ James Nasmyth. Hobbrook Gaskell.
Manufacture of malleable iron - - -	12,234	8th Aug. 1848	Samuel Lees.
Manufacture of iron and tire bars, round bars, square bars, and flat bars, T iron, angle iron, and trough iron.	12,249	21st Aug. 1848	Richard Shaw.
Manufacture of malleable iron; treating products obtained in the process.	12,345	29th Nov. 1848	Edward Schunck.
Making bar or wrought iron - - -	12,706	18th July 1849	Reuben Plaut.
Piling, faggoting and forging iron, for plates, bars, shafts, axles, tires, cannons, anchors, and other similar purposes.	12,861	24th Nov. 1849	Charles Cowper.
Manufacture or working of iron and other metals -	12,928	15th Jan. 1850	Andrew Barclay.
Manufacture of sheets or plates of iron for certain purposes.	13,028	28th March 1850	Thomas Walker.
Shaping iron - - -	13,158	3rd July 1850	James Ward Hoby.
Manufacture or working of iron and other metals; machinery connected therewith.	13,245	5th Sept. 1850	Andrew Barclay
Machinery employed in the manufacture of blooms or piles for railway and other bars of iron.	13,535	27th Feb. 1851	Thomas Ellis, senior.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Chilling cast iron . . . . .	14,082	22nd April 1852	{ Edward Hammond Bentall. James Howard.
Manufacture of iron [ <i>malleable iron from cast iron</i> ]	14,167	12th June 1852	Jean Ernest Beauvalet.
Manufacture of sheet iron [ <i>by hammering whilst in a heated state</i> ]	14,244	29th July 1852	Auguste Edouard Lora-doux Bellford.
Machinery for forging metals and other substances ; —applicable to other purposes.	14,315	7th Oct. 1852	Solomon Andrews.
<b>II.—Tempering and refining Metals.—Steel Manufacture.</b>			
Making steel ; apparatus for the purpose . . . .	33	8th April 1626	{ Richard Lord Dacre. Thomas Letsome. Nicholas Page.
Making copper tough and soft ; also hard copper from soft copper.	50	21st Jan. 1630	David Ramsey.
Refining and working minerals and metals . . .	110	6th Nov. 1637	John Evans.
Refining all sorts of metals by means of sea-coal, pit-coal, peat or turf, with privilege to dig, open, search or work mines of gold, silver, copper, and lead mixed with silver or quicksilver ; also with power to wash, roast, and stamp all such metals or ores, and to refine and extract the gold and silver therefrom . . . . .	117	2nd May 1638	{ Sir George Horsey, Knt. David Ramsey. Roger Foulke. Dudd Dudley.
Making steel . . . . .	148	20th Nov. 1665	{ Sir John Kearesby, Bart. Sir Thomas Strickland, Knt.
Converting into steel, tools, files and other instruments forged in soft iron, also iron wire after it is drawn ; preparing and softening cast and melted iron, so that it may be filed and wrought as forged iron.	161	1st Dec. 1670	Prince Rupert.
Authority to take security from and to administer an oath to workmen not to divulge the preceding patent to No. 161 . . . . .	162	8th Jan. 1671	{ Prince Rupert. Anthony Lord Ashley. Sir Thomas Chikley.
Refining iron and other metals by means of turf and peat, charred.	170	30th May 1673	Sir Nicholas Stanning, Knt.
Refining lead ore in reverberatory furnaces with coal instead of wood.	206	12th Nov. 1678	The Right Hon. Lord Viscount Grandison.
Cleansing dross from metals . . . . .	250	23rd June 1686	{ John Finch. John Newcomb. James Butler.
Refining lead by means of coals, turf, and peat . .	264	26th June 1690	John Hodges.
Making steel equivalent to Corinthian steel . . .	272	15th Aug. 1691	Thomas Neale.
Use of sea-coal and pit-coal for refining smelted iron, and making the same into good bar-iron.	291	29th Feb. 1692	Thomas Addison.
Refining gold and silver . . . . .	374	23rd July 1705	Robert Lydall.
Refining copper on the test by air and blast, with proper furnaces and with sea-coal, whereby the cooper is purified and refined at one operation.	443	21st April 1722	George Moore.
Refining metals by means of prepared salts, sulphur, and other ingredients.	524	7th Dec. 1730	George Roberts.
Refining copper for making brass, by wrought iron	867	26th Jan. 1767	William Champion.
Refining gold, silver, copper and lead, by grinding, washing, and working the same.	894	8th March 1768	Robert Albion Cox.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Refining pig iron by means of charcoal; finery for the purpose.	988	2nd May 1771	John Cockshutt.
Making steel directly from pig iron or cast iron -	1000	20th Dec. 1771	James Goodyer.
Chemical preparation of iron, equal in hardness to the best blister steel, retaining at the same time the toughness and properties of iron - - -	1136	31st Oct. 1776	{ William Ker. John Chapman. Thomas Ireland.
Refining lead glitter, bluestone, and iron ores, also copper ores, and separating their metallic contents by a blast-furnace; rendering their refuse useful in paintings and other purposes.	1243	5th Feb. 1780	Matthew Sanderson.
Working and refining cast or pig iron, and converting the same from a fluid state into wrought iron.	1370	7th May 1783	Peter Onions.
Hardening and stiffening copper; also hardening and stiffening brass, iron, steel, and mixed and compound metals.	1395	15th Nov. 1783	John Westwood.
Manufacturing steel into bars, plates, rods, &c., by fire and machinery.	1420	14th Feb. 1784	Henry Cort.
Preparing steel and ornamenting the same, in buttons, buckles, sword-hilts, toys, &c.	1621	17th Sept. 1787	John Rose.
Preparing calx of lead, and restoring the same into pig lead after being used in extracting alkali from salt.	1661	12th Aug. 1788	Samuel Birnie.
Tempering instruments and manufactures of steel -	1687	9th June 1789	David Hartley.
Conveying the heat arising from the fires of coke ovens, and adapting the same to making steel.	1689	23rd June 1789	The Right Hon. Henry Seymour Conway.
Refining iron - - - - -	1891	19th June 1792	William Fullarton.
Purifying and aerating iron - - - - -	1928	22nd Dec. 1792	John Barber.
Making and manufacturing beads and other articles, of iron and steel, or both united - - -	2134	25th Aug. 1796	{ Arnold Wilde. Joseph Ridge.
Preparing iron for the conversion thereof into steel.	2363	6th Dec. 1799	William Reynolds.
Bending steel without aid of heat, applicable to the manufacture of surgical instruments and to other purposes.	2440	21st Aug. 1800	Joseph Egg.
Purifying metals - - - - -	2645	31st Aug. 1802	Joseph Hatcly.
Separating impurities from cast iron without fusing the iron; rendering the same malleable.	2767	30th May 1804	Samuel Lucas.
Refining crude iron, lead, copper, gold, silver, tin, and other metals and metallic bodies.	3901	29th March 1815	Richard Smith.
Working steel into plates, bars, &c. - - -	4050	3rd Aug. 1816	John Poole.
Preparation of iron and other metals, and converting British iron into steel.	4362	22nd June 1819	Stephen Bedford.
Forming or preparing steel for the manufacture of coach-springs.	4655	2nd March 1822	John Thompson.
Applying prismatic colours to the surface of steel and other metals, and using the same in the manufacture of various ornaments [ <i>by fine lines engraved by machinery</i> ].	4678	4th June 1822	John Barton.
Mode of making refined or cast steel - - -	5051	9th Dec. 1824	John Thompson.
Making steel - - - - -	5173	14th May 1825	Charles Macintosh.
Purifying certain metals - - - - -	5174	16th May 1825	John Badams.
Manufacture of steel [ <i>blister steel, alloyed with zinc, nickel, and silver</i> ] - - - - -	5259	6th Oct. 1825	{ John Martineau. Henry William Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Converting iron into steel [ <i>by sal-ammoniac, alum, and salt</i> ].	5263	13th Oct. 1825	Nathaniel Kimball.
Making sheer steel - - - - -	5693	4th Sept. 1828	Charles Sanderson.
Improving the quality of inferior iron - - -	5779	30th March 1829	Josias Lambert.
Improving the quality of inferior iron - - -	5893	4th Feb. 1830	Josias Lambert.
Apparatus for heating metals - - - - -	6146	30th July 1831	Angier March Perkins.
Manufacturing steel - - - - -	7142	4th July 1836	John Isaac Hawkins.
Manufacture of steel - - - - -	8021	5th April 1839	Josiah Marshall Heath.
Hardening iron - - - - -	8120	22nd June 1839	Joseph Pons.
Roasting and refining copper, to reduce the oxydation of the metal, and render it more pure and ductile.	8127	22nd June 1839	Edward Brown.
Manufacture of cast steel - - - - -	8129	25th June 1839	William Vickers.
Process for case-hardening iron - - - - -	8723	25th Nov. 1840	Robert Roberts.
Manufacture of steel - - - - -	8930	22nd April 1841	Henry Brown.
Manufacture of steel - - - - -	8959	14th May 1841	{ James Gregory. { William Green.
Manufacture of metals for edge tools - - -	9607	26th Jan. 1843	James Boydell.
Manufacture of steel - - - - -	10,038	8th Feb. 1844	{ Thomas Southall. { Charles Crudgington.
Construction and manufacture of cylinders, hoops, and rollers; machinery connected therewith [ <i>employing guano for hardening metals</i> ].	10,073	24th Feb. 1844	Peter Rothwell Jackson.
Manufacture of steel and other metals - - -	10,159	27th April 1844	Arthur Wall.
Manufacture of steel - - - - -	10,204	25th May 1844	Charles Low.
Manufacture of steel and other metals - - -	10,441	18th Dec. 1844	Arthur Wall.
Manufacture of steel - - - - -	10,470	16th Jan. 1845	John James Osborne.
Manufacture of cast steel - - - - -	10,798	4th Aug. 1845	Josiah Marshall Heath.
Refining the products of metallic ores - - -	10,805	7th Aug. 1845	Frederick Bankart.
Rendering malleable iron more hard and durable -	10,971	27th Nov. 1845	Moses Poole.
Heating, hardening, and tempering articles made of steel, or of iron and steel combined.	11,380	24th Sept. 1846	Alfred Vincent Newton.
Manufacture of steel - - - - -	11,810	20th July 1847	Moses Poole.
Refining silver-lead by obtaining a saving in one of the materials used [ <i>phosphate of lime, or bone-ash</i> ].	11,872	23rd Sept. 1847	Arthur Harry Johnson.
Manufacture of steel - - - - -	12,310	2nd Nov. 1848	Alfred Vincent Newton.
Hardening articles composed of iron - - -	12,418	13th Jan. 1849	Richard Dugdale.
Production and manufacture of steel - - -	12,687	4th July 1849	Sir Francis Charles Knowles.
Making steel - - - - -	12,705	18th July 1849	John Holland.
Manufacture of steel - - - - -	12,757	6th Sept. 1849	Josiah Marshall Heath.
Manufacture of steel - - - - -	12,950	29th Jan. 1850	Ewald Riepe.
Straightening, flattening, setting, and shaping hardened steel.	13,181	17th July 1850	John Silvester.
Application of zinc or zinc ores to the manufacture of certain metals or alloys [ <i>preparation or manufacture of steel</i> ].	13,192	23rd July 1850	William Edward Newton.
Manufacture of steel - - - - -	13,230	22nd Aug. 1850	William Dick.
Refining gold - - - - -	13,232	22nd Aug. 1850	William Edward Newton.
Refining steel - - - - -	13,385	5th Dec. 1850	Ewald Riepe.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Manufacture of steel - - - - -	13,421	19th Dec. 1850	Henry Mortlock Ommanney.
Manufacture of steel - - - - -	13,496	7th Feb. 1851	Matthew Onions.
Partially hardening iron - - - - -	13,592	15th April 1851	Antoine Victor Coutant.
Manufacture of steel - - - - -	14,033	24th March 1852	William Whitaker Collins.
Manufacture of steel - - - - -	14,167	12th June 1852	Jean Ernest Beauvalet.
Obtaining and applying electric currents;—partly applicable to refining certain metals and the production of metallic solutions.	14,346	13th Nov. 1852	William Petrie.
<b>III.—Plating, Tinning, Lining, and Covering.</b>			
Plating and tinning iron, copper, steel, and brass; compressing and plating all other metals.	171	12th Nov. 1673	William Chamberlayne.
Tinning iron plates to equal those made in and brought from Germany.	282	17th Oct. 1691	Edmund Hemings.
Tinning copper and brass vessels, to prevent the formation of verdigris.	901	13th Aug. 1768	John Bootie.
Tinning coffin nails and tacks - - - - -	938	7th Nov. 1769	Joseph Ashton.
Tinning copper work - - - - -	967	10th Aug. 1770	Maurice Crawford.
Gilding plated metal for buttons or other articles in the toy way.	1187	20th March 1778	William Collins.
Making shaven or bright latten [ <i>brass or iron tinned</i> ]	1189	30th March 1778	Edward Hawkins.
Plating steel or iron with gold or silver - - -	1209	30th Jan. 1779	Richard Ellis.
Tinning oval-bellied pots - - - - -	1232	10th Aug. 1779	Jonathan Taylor.
Tinning or lining tea and coffee urns and other copper vessels.	1352	20th Jan. 1783	John Tylor.
Plating the surface of copper or other metals with gold or silver.	1466	26th Feb. 1785	William Playfair.
Covering the mitres, angles or joints of plated wares with stronger plated metals or solid silver.	1472	16th April 1785	Valentine Rawle.
Tinning or lining vessels of copper, brass, iron, or other metal, especially those for culinary purposes.	1496	13th Sept. 1785	John Poulain.
Lining, edging, plating and covering buckles and other articles made of iron, copper, or other metals or mixed metals, with silver or gold, by the application of tin or alloyed tin.	1511	19th Nov. 1785	James Alston.
Gilding button-shells - - - - -	1586	1st Feb. 1787	Robert Hickman.
Gilding and ornamenting various goods of British manufacture, in gold and silver leaf, also with yellow and white metal leaf.	1633	5th Dec. 1787	Roger Ferrand.
Covering and combining copper or brass sheets or plates with a metallic or semi-metallic substance, to prevent corrosion - - - - -	1739	31st March 1790	{ William Collins. Charles Wyatt.
Plating silver upon pure or block tin, and manufacturing therewith all sorts of silver plated goods and wares usually manufactured from gold, silver, or other metals, or metal plated with gold or silver.	1755	8th July 1790	John Whitworth.
Plating and covering with silver, steel cutlery in general.	2002	22nd July 1794	John Hand.
Lining water-spouts with zinc - - - - -	2849	18th May 1805	{ Charles Hobson. Charles Silvester. John Moorhouse.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Facilitating the chemical action between copper and saline substances, so as to produce improvements in separating gold and silver from copper, plated or united with either of those metals.	3001	15th Jan. 1807	Walter Henry Wyatt.
Brass and copper plating, or plating iron or steel with copper or brass, both plain and ornamental.	4050	3rd Aug. 1816	John Poole.
Coating iron, steel, and other metals or mixture of metals, with tin, lead, copper, brass, or other metals or mixture of metals.	4053	3rd Aug. 1816	John Dayman.
Lining vessels for containing liquids, to prevent leakage, &c.	4074	1st Nov. 1816	George Washington Dickinson.
Tinning sheets or plates of copper, brass, or zinc	4134	10th June 1817	John Parnall.
Plating copper or brass, or mixture of copper and brass, with gold or alloy.	4182	5th Dec. 1817	John Turner.
Tinning cast-iron vessels of capacity - - -	4459	13th May 1820	Samuel Kenrick.
Plating lead with tin - - - - -	4515	9th Dec. 1820	Thomas Dobbs.
Brass and copper plating, or plating iron or steel with brass or copper, or copper alloyed with other metal or metals, both plain and ornamental, for the purpose of rolling and working into plates, sheets or bars, and such goods or wares to which the same may be found applicable.	4598	18th Oct. 1821	John Poole.
Process for manufacturing gold and silver plate, and other plate formed of ductile metals [ <i>by hydraulic pressure</i> ].	4698	24th Aug. 1822	William Mitchell.
Making fenders and fire-iron rests [ <i>ornamenting by close plating</i> ].	4845	11th Sept. 1823	James Sprigg, senior.
Manufacture of plated goods of various descriptions	5057	18th Dec. 1824	Samuel Roberts.
Uniting and plating and coating iron with copper, or with any other composition whereof copper is the principal ingredient - - - - -	5111	26th Feb. 1825	{ David Gordon. William Browser.
Coating and protecting the surfaces of metallic and other bodies.	5121	15th March 1825	Thomas Hancock.
Coating and covering vessels or packages for containing, preserving, conveying, and transporting goods and products, liquid or solid.	5426	8th Dec. 1826	Robert Dickinson.
Preparing iron plates for tinning - - - - -	5843	9th Sept. 1829	Thomas Morgan.
Plating or coating copper or brass, or mixture of the same with other metals or materials, with two metals or substances upon each other; making articles or utensils from the said metal when so plated, such as have hitherto been made of silver, or of copper or brass, or of a mixture of copper and brass plated or coated with silver only [ <i>plating German silver</i> ].	5963	26th July 1830	Samuel Roberts.
Process in giving a metallic coating to various articles of commerce.	6371	24th Jan. 1833	John Warner.
Application of certain plated white metal to certain manufactures to which it has not hitherto been applied.	7018	8th March 1836	Anthony Theophilus Merry.
Gilding copper, brass, and other metals or alloy of metals.	7134	24th June 1836	George Richards Elkington.
Coating certain metals with platina; gilding metals; apparatus used in such processes.	7304	17th Feb. 1837	Henry Elkington.
Coating iron and copper for the prevention of oxydation.	7355	29th April 1837	Henry William Craufurd.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;C.—continued.</b>			
Preparing iron to be coated with tin or other metals	7495	4th Dec. 1837	Thomas William Booker.
Gilding and silvering certain metals; vessels or apparatus used in such processes, and for other purposes.	7496	4th Dec. 1837	Henry Elkington.
Coating and colouring certain metals - - -	7742	24th July 1838	{ George Richards Elking- ton. Oglethorpe Wakelin Barratt.
Glazing and enamelling cast-iron hollow ware and other metallic substances - - - - - }	8080	25th May 1839	{ Thomas Clark. Charles Clark.
Covering or plating for household furniture, picture-frames, cabinet and fancy work, &c., and mode of making such plating.	8193	13th Aug. 1839	Henry Brown.
Coating iron to prevent oxydation or corrosion, and for other purposes.	8403	29th Feb. 1840	James Beaumont Neilson.
Preserving and covering certain metals and alloys of metals.	8407	3rd March 1840	Joseph Shore.
Coating, covering, or plating certain metals - -	8447	25th March 1840	{ George Richards Elking- ton. Henry Elkington.
Covering and coating metals and alloys of metals -	8604	15th Aug. 1840	Pierre Armand le Comte de Fontainemoreau.
Tinning metals - - - - -	8634	17th Sept. 1840	{ Walter Richardson. George Mott Braith- waite.
Applying a coating to the surfaces of iron pipes and tubes.	8677	3rd Nov. 1840	Richard Farger Emmer- son.
Process, mode or method of making or manufac- turing lime cement, artificial stone, and such other compositions;—more particularly applicable for working under water, and in constructing build- ings and other works which are exposed to damp [also coating iron to prevent its becoming oxydized].	8914	3rd April 1841	William Edward Newton.
Tinning or zincing metals for making casks, and for other purposes.	9045	11th Aug. 1841	Samuel Brown.
Coating or covering metals with other metals, and colouring metallic surfaces.	9167	9th Dec. 1841	William Henry Fox Talbot.
Covering or plating with silver various metals and metallic alloys [by electro-deposition].	9379	4th June 1842	Edmund Tuck.
Coating with metal the surface of articles formed of metal or metallic alloys.	9431	1st Aug. 1842	John Stephen Woolrich.
Manufacture of plated wares - - - - -	9441	10th Aug. 1842	Richard Ford Sturges.
Coating or covering metals with other metals - -	9528	25th Nov. 1842	William Henry Fox Talbot.
Coating iron nails, screws, nuts, bolts, and other articles made of iron, with certain other metals - }	9641	21st Feb. 1843	{ Benjamin Brunton Blackwell. William Norris.
Processes for coating metals - - - - -	9720	4th May 1843	{ Edward Morewood. George Rogers.
Gilding, plating and coating various metallic surfaces.	9786	15th June 1843	Oglethorpe Wakelin Barratt.
Mastic or cement, which may be also applied as an artificial stone, and for coating metals and other substances.	9847	20th July 1843	Charles Bertram.
Coating the surfaces of metals of various forms, and applying the same to useful purposes.	9991	18th Dec. 1843	Benjamin Cook, junior.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Improvements partly applicable to preparing and treating oils, turpentine, varnishes, and gold size, when employed to fix metallic powders and metal leaf.	10,011	13th Jan. 1844	Henry Bessemer.
Coating iron with other metals - - - -	10,322	8th June 1844	{ Edmund Morewood. George Rogers.
Coating or covering metals and alloys - - -	10,382	31st July 1844	Pierre Armand le Comte de Fontainemoreau.
Coating iron; preparing iron for coating and for other purposes - - - - -	10,859	9th Oct. 1845	{ Edmund Morewood. George Rogers.
Coating or covering certain metals with other metals and metallic alloys.	10,880	9th Oct. 1845	Alexander Parkes.
Coating with a metal the surface of articles of copper or copper alloys, or iron, wrought or cast.	11,065	29th Jan. 1846	George Howell.
Coating metals to prevent oxydation - - -	11,083	11th Feb. 1846	Andrew Smith.
Coating iron; preparing iron for coating and for other purposes - - - - -	11,476	7th Dec. 1846	{ Edmund Morewood. George Rogers.
Coating, covering and ornamenting the surfaces of articles made of wrought iron or other metal, which may be used in substitution of japanning, tinning, or other modes now in use.	11,592	24th Feb. 1847	Frederick Walton.
Brassing and bronzing the surface of steel, iron, zinc, lead, and tin.	11,878	30th Sept. 1847	Charles de la Salzedo.
Coating iron and steel [ <i>with copper and its alloys, by means of a flux of common salt</i> ].	11,971	18th Nov. 1847	Alexander Parkes.
Coating metals - - - - -	12,142	27th April 1848	Alexander Parkes.
Coating and covering metallic and non-metallic bodies.	12,523	14th March 1849	Pierre Armand le Comte de Fontainemoreau.
Coating iron and certain other metals and alloys of metals - - - - -	12,526	19th March 1849	{ Thomas Henry Russell. John Stephen Woolrich.
Coating the surfaces of pumps, pipes, cisterns, and other articles of iron.	12,813	18th Oct. 1849	William Wyatt.
Process of coating iron and other metals with copper and other metallic substances.	12,993	7th March 1850	Ebenezer G. Pomeroy.
Coating or covering metals with tin - - -	13,020	23rd March 1850	Alfred Guillaume Roseleur.
Coating and impregnating metals and metallic articles.	13,216	9th Aug. 1850	Joseph Steele.
Coating or covering metals - - - - -	13,401	12th Dec. 1850	{ Edmund Morewood. George Rogers.
Coating metals with other metals - - - -	13,442	11th Jan. 1851	{ Henry Grissell. Theophilus Redwood.
Coating metals - - - - -	13,485	31st Jan. 1851	John Davie Morris Stirling.
Manufacture of iron coated with other metal "galvanized iron" - - - - -	13,512	12th Feb. 1851	{ Charles William Tupper. Alphonse Rene le Mire de Normandy.
Coating and ornamenting zinc - - - -	13,889	31st Dec. 1851	Francis Hastings Greenstreet.
Coating metals - - - - -	13,971	13th Feb. 1852	{ Edmund Morewood. George Rogers.
Coating sheet metal [ <i>zinc and its alloys</i> ] - -	14,040	24th March 1852	{ Edmund Morewood. George Rogers.
Coating metal tubes - - - - -	14,133	22nd May 1852	John James Russell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
<b>IV.—Precipitating and Depositing.</b>			
Drawing water from copper ore, by which to make copper out of iron.	106	28th July 1637	Captain Thomas Whitmore.
Tincturing copper upon iron - - - - -	161	1st Dec. 1670	Prince Rupert.
Authority to take security from and to administer an oath to workmen not to divulge the preceding Patent No. 161 - - - - -	162	8th Jan. 1671	{ Prince Rupert. Anthony Lord Ashley. Sir Thomas Chikley.
Infusing certain metallic substances into the body and pores of iron, steel and other metals, which will effectually secure them from rust or corrosion.	1551	3rd Aug. 1786	William Kerr.
Precipitating copper from cupreous waters flowing from mines or from artificial waters, and reducing some ores to their metallic state.	5231	8th Aug. 1825	Richard Hayton.
Production of works of art in metals by electric deposition.	8905	29th March 1841	Alexander Parkes.
Precipitation or deposition of metals - - - - -	9077	8th Sept. 1841	Oglethorpe Wakelin Barratt.
Depositing and manufacturing metals and metallic articles by electro-galvanic agency; apparatus connected therewith.	9374	1st June 1842	Henry Beaumont Leeson.
Deposition of certain metals; apparatus connected therewith.	9741	25th May 1843	Moses Poole.
Deposition of metals upon various felted and other fabrics.	9982	8th Dec. 1843	Julius Schottlaender.
Depositing certain metals and their alloys - - -	10,063	21st Feb. 1844	Alexander Parkes.
Treating mineral waters to obtain products therefrom; separating metals from other matters [ <i>precipitating copper</i> ].	10,362	22nd Oct. 1844	James Napier.
Depositing certain metals and their alloys - - -	10,366	29th Oct. 1844	Alexander Parkes.
Deposition of metals - - - - -	11,632	23rd March 1847	{ Morris Lyons. William Millward.
Treatment of certain mineral waters to obtain products therefrom [ <i>precipitating copper</i> ].	12,497	28th Feb. 1849	Thomas Rowlandson.
Deposition of certain metals and alloys - - -	12,534	26th March 1849	Alexander Parkes.
Depositing metals;—partly applicable to similar purposes.	12,654	7th June 1849	Stanhope Baynes Smith.
<b>V.—Compounding, Combining, Alloying.</b>			
Making a valuable metal as sweet, clean, and wholesome as silver, by mixing a certain stone with chargeable ingredients, to be used for making various vessels - - - - -	145	22nd April 1664	{ Thomas Henshaw. Francis Watson. Thomas Hale. James Dewey.
Compound ductile metal, which can be drawn fine enough to spin and weave into all sorts of stuffs; also fit for several other uses - - - - -	260	8th Sept. 1688	{ Bernard Strode. Robert Snelling.
Making brass and plates of the same, for kettles and the like, with materials the native growth of this kingdom.	273	15th Sept. 1691	Thomas Neale.
Making by way of translocation, a fine metal, both white and yellow, and which is also easily malleable; "Nuremburg metal"	285	7th Dec. 1691	John Stapleton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Making brass by mixing copper with calamy and charcoal - - - - -	495	3rd Feb. 1728	{ Benjamin Lund. Francis Hanksbee.
Compounding tough and brittle metals with other metals.	569	10th Sept. 1739	John Champion.
Chemical composition of metal suitable for cannon and other field arms - - - - -	646	1st July 1749	{ Matthew Moore. Charles Sigismund Stark.
Preparing spelter and brass made from a mineral not before used for the purpose.	726	28th July 1758	John Champion.
Making brass by use of black-jack instead of calamy	867	26th Jan. 1767	William Champion.
Making a metal of the colour and in all respects resembling gold.	1055	15th Nov. 1773	Richard Dovey.
Compound metal for lining copper, brass, and iron vessels.	1215	22nd March 1779	Thomas Bennett.
Making spelter and brass - - - - -	1239	24th Nov. 1779	John Champion.
Compound metal, capable of being forged hot or cold, for making bolts, nails, sheathing for ships, and for other purposes.	1240	10th Dec. 1779	James Keir.
Making brass with copper and spelter - - - - -	1297	13th July 1781	James Emerson.
Conveying the heat arising from the fires of coke ovens, and adapting the same to making brass.	1689	23rd June 1789	Right Hon. Henry Seymour Conway.
Metal of great strength, that may be used in place of iron.	2287	16th Jan. 1799	James Edgell.
"Albion metal," for cisterns, coverings or gutters for buildings, boilers, and vats, worms for distillers, and other articles requiring to be made of a flexible or cheap metallic substance.	2761	14th May 1804	Thomas Dobbs.
Combining and connecting different metals, or metals and wood, so as to make the combinations have the same appearance - - - - -	3480	27th June 1811	{ Thomas Attwood. Benjamin Cook.
Compounding metals [ <i>alloy of iron and brass, for making articles which shall not be subject to corrosion</i> ].	4700	3rd Sept. 1822	Robert Vazie.
Uniting iron with copper, or casting iron with copper, or with any other composition whereof copper is the principal ingredient - - - - -	5111	26th Feb. 1825	{ David Gordon. William Browser.
Certain alloys of metals [ <i>alloy of copper and zinc to resemble fine gold; "or molu"</i> ] - - - - -	5291	12th Nov. 1825	{ Samuel Parker. William Francis Hamilton.
Compound metal or alloy applicable to the sheathing of ships, and to other purposes.	5692	28th Jan. 1830	John Revere.
Alloying metals by cementation;—applicable to the preservation of copper, iron, and other metals.	7630	3rd May 1838	Miles Berry.
Metallic concrete, capable of being cast into various forms by means of fire, for a variety of purposes for which iron, lead, zinc, copper, and other substances have heretofore been used.	7753	30th July 1838	Robert Hendley.
Metallic alloys as substitutes for zinc, cast iron, copper, and other metals.	7781	23rd Aug. 1838	Pierre Armand le Comte de Fontainemoreau.
Combinations of metals for making tubes or pipes, and for other purposes.	7909	17th Dec. 1838	Job Cutler.
Mixing or alloying iron with other metals, for the purpose of increasing its strength, tenacity, or cohesion, applicable to the manufacture of links for chains and rings; machinery for the purpose.	8114	18th June 1839	John Wright.
Combinations of metals to be used for various purposes.	8232	3rd Oct. 1839	Job Cutler.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Manufacture of Britannia metal - - - -	9441	10th Aug. 1842	Richard Ford Sturges.
Manufacturing bars of iron with other metals -	9690	7th April 1843	James Boydell, junior.
Manufacture of alloys of lead, tin, tungsten, copper, and zinc, with other metals.	9764	10th June 1843	Edward Joseph François Duclos De Boussois.
Manufacturing metal combined with other metal, for covering floors, &c.	9987	13th Dec. 1843	Henry Purser Vaile.
Mixture of metals applicable for the manufacture of sheathing for ships and other vessels; also bolts, nails, or other fastenings.	10,056	17th Feb. 1844	John Lionel Hood.
Manufacture of certain alloys or combinations of metals.	10,063	21st Feb. 1844	Alexander Parkes.
Combinations of zinc with other metallic bodies -	10,100	14th March 1844	William Godfrey Kneller.
Combinations of alloys of metals, applicable for various purposes in which brass and copper are usually employed in constructing machinery.	10,208	30th May 1844	James Fenton.
Combining cast steel with iron - - - -	10,343	10th Oct. 1844	John Bower Brown.
Manufacture of certain alloys or combination of metals.	10,366	29th Oct. 1844	Alexander Parkes.
Amalgamation of and alloying certain metals - -	10,426	12th Dec. 1844	Joseph Weiger.
Manufacture of brass - - - - -	10,524	17th Feb. 1845	James Graham.
Combining iron and other materials, for constructing bridges, roofs, arches, floor, and other similar structures.	10,808	5th Aug. 1845	Peter Francis Maire.
Combining steel and iron into bars for wheel-tires and for other purposes.	10,921	4th Nov. 1845	Charles Sanderson.
Certain alloys and metallic compounds - - -	11,262	29th June 1846	John Davie Morries Stirling.
Alloys of metal - - - - -	11,632	23rd March 1847	{ Morris Lyons. { William Millward.
Uniting certain metals and alloys of metals [ <i>laterally, by means of an alloy or solder</i> ].	11,811	23rd July 1847	Harry Joseph Perlbach.
Improvements partly applicable to the manufacture of metallic alloys.	11,848	2nd Sept. 1847	Robert Oxland.
Manufacture of metallic compounds - - -	12,268	12th Oct. 1848	John Davie Morries Stirling.
Manufacture of alloys of metals - - - -	12,322	9th Nov. 1848	James Napier.
Manufacture of alloys of metals - - - -	12,325	11th Nov. 1848	{ Alexander Parkes. { Henry Parkes.
Making an alloy of metal for axletree boxes and bearings.	12,876	3rd Dec. 1849	James Ullric Vaucher Baron de Strubing.
Method of making alloys of copper - - -	13,042	15th April 1850	George Attwood.
Metallic alloys - - - - -	13,152	24th June 1850	{ John Percy. { Henry Wiggin.
Metallic alloys - - - - -	13,439	2nd Jan. 1851	{ John Percy. { Henry Wiggin.
Metallic compounds - - - - -	13,486	31st Jan. 1851	John Davie Morries Stirling.
Production of alloys from certain metals - -	13,746	11th Sept. 1851	Alexander Parkes.
Combining iron with other metal, applicable to making chains and other manufactures [ <i>combining laminae of iron, or iron and steel, for forming chains, anchors, pulleys, and other articles</i> ].	13,817	15th Nov. 1851	Andrew Dominique Sisco.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Alloys and combinations of metals - - -	13,877	22nd Dec. 1851	John Davie Morries Stirling.
Manufacture of metallic compounds - - -	13,956	3rd Feb. 1852	Peter Claussen.
<b>VI.—Metallic Foil and Capsules.</b>			
Making thin metal plates for mouldings - -	552	16th Jan. 1742	John Baskerville.
Machine for making tinfoil - - - -	1067	11th April 1774	Thomas Giffin.
Tinfoil capable of large and varied crystallization -	4301	5th Nov. 1818	Marc Isambard Brunel.
Manufacture of sheet metal for bottle-covers - -	9665	16th March 1843	John Thomas Betts.
Machinery and apparatus partly applicable to the manufacture of tinfoil and thin sheets of other metal or alloys of metals.	11,317	30th July 1846	Henry Bessemer.
Manufacture of capsules; application of designs to certain descriptions of surfaces - - - }	11,961	30th Nov. 1847	{ William Betts. George William Jacob.
Manufacture of capsules and the material to be employed therein.	12,415	13th Jan. 1849	William Betts.
Manufacture of metallic cases and coverings - -	13,561	20th March 1851	{ Alexander Robertson. James Glover.
<b>VII.—Rolling, slitting, bending, and making Metallic Plates.</b>			
Manufacture of milled lead for sheathing and preservation of ships, or any other thing - - }	254	13th Aug. 1687	{ Richard Kent. Charles Davenant. Thomas Agar. John Warter. Thomas Hale. Michaell Hale.
Making metal plates, and rolling the same into mouldings or level plates.	582	16th Jan. 1742	John Baskerville.
Rolling malleable metals and making tire for wheel carriages.	740	14th July 1759	Thomas Blockley.
Rolling silver, copper and other metals, of various thicknesses, with the same rollers and by one operation.	935	28th Aug. 1769	Richard Ford.
Machine for slitting iron - - - - -	994	18th July 1771	James Story.
Machine for forging, rolling, flattening, and slitting iron.	1263	23rd Aug. 1780	James Pickard.
Making iron and other metal plates for covering houses and other buildings, such plates being superior to tiles, slate, or lead.	1392	25th Oct. 1783	Robert Ransome.
Pneumatic engine for rolling and slitting metals -	1775	16th Oct. 1790	Joseph Hateley.
Rolling or flattening iron and other metals by means of steam-engines or any other power.	1857	2nd March 1792	John Wilkinson.
Machine for making metal plates - - - -	2482	17th Feb. 1801	John Bennoch.
Machine for rolling iron for shanks, and forming the same into shanks for nails.	2739	8th Nov. 1803	Booth Hodgetts.
Rolling plates of cast steel for trowels of a square or oblong form, from blister, sheer, or cast steel.	3131	10th May 1808	William Hunt.
Constructing iron-work for buildings - - - -	3503	30th Oct. 1811	Thomas Pearsall.
Twisting metals by machinery - - - - -	3903	4th April 1815	William Vaughan Palmer.
Preparation of plated copper or brass for rolling into sheets.	4182	5th Dec. 1817	John Turner.
Rolling iron - - - - -	4257	7th May 1818	Thomas Dodd.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
"Amorphous metal plates;" also crystallizing or rendering crystallizable the surface of tin plates, or iron or copper plates tinned - - - - -	4284	24th July 1818	{ Richard Blakemore. John James.
Machinery for manufacturing lead and other metals into sheets.	4445	11th April 1820	Thomas Burr.
Rolling iron into bars used for making tin plates -	4667	16th April 1822	William Daniell.
Manufacture of metal plates for sheathing the bottoms of ships and other vessels.	6325	22nd Oct. 1832	George Frederick Muntz.
Machinery and process for forging or rolling } metal - - - - -	6995	3rd Feb. 1836	{ Frederick Edward Harvey. Jeremiah Brown.
Manufacture of sheets and other articles of lead } and other metals - - - - -	7234	24th Nov. 1836	{ Thomas Ellis. Thomas Burr.
Plates or tiles of zinc or other proper metal or mixture of metals, applicable to roofs or other parts of buildings.	7367	8th May 1837	Peter Steinkeller.
Machinery or apparatus called rolls, for rolling iron or other metals, applicable to rails for roads, and bars of various shapes for other purposes.	7380	25th May 1837	Joseph Freeman.
Machinery for rolling metals - - - - -	7502	9th Dec. 1837	Samuel Mills.
Machinery for bending metal and for holding it to be bent.	7556	30th Jan. 1838	Charles Phillips.
Rolling, making or manufacturing, shafts, rails, tire-iron, and various other heavy articles of metal; machinery or apparatus used in the same.	7666	2nd June 1838	James Hardy.
Machinery, tools or apparatus for rolling metals and other substances.	7881	22nd Nov. 1838	John George Bodmer.
Machinery, tools or apparatus for rolling metals and other substances.	8070	20th May 1839	John George Bodmer.
Rolling iron - - - - -	8074	22nd May 1839	James Vardy.
Rolling lead and other soft metals - - - - -	8189	8th Aug. 1839	Thomas Burr.
Preparing and rolling iron and other metals or metallic alloys, for the manufacture of certain articles of commerce.	8366	28th Jan. 1840	John Whitehouse.
Rolling puddle-balls or masses of iron - - - - -	8389	22nd Feb. 1840	Gerard Ralston.
Application of corrugated plates of metal to the construction of the roofs and other parts of buildings.	9332	26th April 1842	Henry Robinson Palmer.
Manufacture of keel-plates for vessels, iron gates, gate-posts, fencings, and gratings.	9365	24th May 1842	James Boydell.
Rolling iron into plates or sheets - - - - -	9849	22nd July 1843	William Daniell.
Machine for rolling, squeezing, or compressing puddled balls of iron.	9996	28th Dec. 1843	George Benjamin Thorneycroft.
Manufacturing or preparing plates of iron or other metal for roofing and for other purposes.	10,399	23rd Nov. 1844	John Spencer.
Preparation of the materials for the purpose of constructing roofs and other parts of buildings of iron or other metals.	10,429	12th Dec. 1844	William Malins.
Rolling iron bars for suspension-bridges and other purposes.	10,855	6th Oct. 1845	Thomas Howard.
Preparation of the materials for the purpose of constructing roofs and other parts of buildings of iron or other metals.	10,953	18th Nov. 1845	William Malins.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Manufacture of iron for building ships - -	11,358	14th July 1846	Lawrence Hill.
Manufacture of rolls for rolling iron and other metals.	11,323	4th Aug. 1846	Thomas Payne.
Manufacture of metal plates for sheathing the bottom of ships and other vessels.	11,410	15th Oct. 1846	George Frederick Muntz.
Manufacture of sheet metal for sheathing - -	11,434	3rd Nov. 1846	Baron Charles Wetterstedt.
Bending or shaping iron or steel and other metals -	12,271	21st Sept. 1848	John Frearson.
Machinery for rolling iron or other metals;—partly applicable to other machinery in which cylinders or rollers are used.	12,373	16th Dec. 1848	William Clay.
Manufacture of iron; machinery for producing the same [ <i>rolling iron</i> ].	12,457	8th Feb. 1849	Lawrence Hill.
Rolls for rolling flat and half round file and other iron and steel.	12,694	4th July 1849	William Henry Brown.
Rolling iron and other metals - - - -	13,006	19th March 1850	{ William Joseph Horsfall. Thomas James.
Machinery and apparatus to be used in rolling metals.	13,150	12th June 1850	Thomas Deakin.
Rolling iron - - - - -	13,265	28th Sept. 1850	Charles Harratt.
Rolling and laminating metals - - - -	13,561	20th March 1851	{ Alexander Robertson. James Glover.
Manufacture of malleable metals into pipes, hollow shafts, railway wheels, and other like forms capable of being turned down or polished in a lathe.	13,849	8th Dec. 1851	Perry G. Gardiner.
Shaping sheet metal for building purposes - -	14,040	24th March 1852	{ Edmund Morewood. George Rogers.
Improvements in and applicable to boats, ships, and other vessels [ <i>rolling iron to form hollow beams for ships</i> ].	14,130	22nd May 1852	Richard Roberts.
Application of iron to building purposes - -	14,278	26th Aug. 1852	Charles Cowper.
Machinery for bending metals and other substances;—applicable to other purposes.	14,316	7th Oct. 1852	Solomon Andrews.
Manufacture of iron for ship-building [ <i>employing arsenic to prevent the adhesion of animal matters</i> ].	14,335	23rd Oct. 1852	Robert Mc'Gavin.
Manufacture of metal rolls - - - - -	14,355	11th Jan. 1853	Thomas Fieldes Cocker.
<b>VIII.—Cutting and Planing.</b>			
Engine worked by water for cutting iron into small bars or rods for making nails.	10	11th Dec. 1618	Clement Dawbeney.
Engine for cutting sheet lead - - - -	579	9th Sept. 1741	James Creed.
Cutting or dividing pieces of metal, and giving them a cylindrical or other uniform shape through their whole length, or making them taper regularly, for the formation of bars, bolts, rods, wire, spade and shovel bits.	1408	17th Dec. 1783	William Playfair.
Machine for cutting trunnels and spiles - -	3523	23rd Jan. 1812	James Beale.
Cutting, working and planing minerals and metals, by machinery.	6228	23rd Feb. 1832	Alexander Beattie Shankland.
Machinery for planing and cutting metals and other materials.	6850	11th June 1835	Joseph Whitworth.
Machinery, tools or apparatus for cutting, planing and turning metals and other substances.	7331	28th March 1837	Joseph Haley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Machinery for planing and cutting metals and other materials.	7332	28th March 1837	Joseph Whitworth.
Machinery, tools or apparatus for planing and cutting metals and other materials.	7441	5th Oct. 1837	Joseph Whitworth.
Machinery for cutting metal and for holding it to be cut.	7556	30th Jan. 1838	Charles Phillips.
Machine for cutting or planing metals and other substances; securing the cotters used in such machinery and other machinery where keys or cotters are applied.	7815	20th Sept. 1838	James Nasmyth.
Machinery, tools or apparatus for cutting and planing metals and other substances.	7881	22nd Nov. 1838	John George Bodmer.
Machinery for planing or cutting metals - - -	7913	18th Dec. 1838	John Roberts.
Machinery, tools or apparatus for cutting and planing metal and other substances.	8070	20th May 1839	John George Bodmer.
Machinery for planing and cutting metals or other substances.	8188	7th Aug. 1839	Joseph Whitworth.
Machinery or apparatus for cutting and shaping metals and other substances - - - - }	8705	17th Nov. 1840	{ Joseph Whitworth. John Spear.
Machinery for planing or cutting metals or other substances.	8730	25th Nov. 1840	Nathaniel Batho.
Construction of screwing-stocks, taps and dies, and certain other tools or apparatus or machinery for cutting and working in metals.	8912	3rd April 1841	John George Bodmer.
Apparatus for cutting and shaping metals and other substances.	9124	21st Oct. 1841	Henry Davies.
Machinery for cutting metals - - - - }	9238	27th Jan. 1842	{ William Galloway. John Galloway. Joseph Haley.
Composition for cutting, grinding, and polishing metals and other hard substances.	9337	30th April 1842	Henry Barclay.
Machinery for cutting iron and other substances -	9382	9th June 1842	James Nasmyth.
Machines for cutting or shearing iron or other metals;—applicable to other like purposes.	9995	28th Dec. 1843	Thomas Murray Gladstone.
Machinery for cutting metals and other substances -	10,369	29th Oct. 1844	Thomas Fuller.
Cutting plate and sheet iron - - - - }	11,047	20th Jan. 1846	William Vincent Wennington.
Machinery for shearing metal plates - - -	11,168	15th April 1846	Charles May.
Machinery for shearing and cutting metals - -	11,381	24th Sept. 1846	Charles Fox.
Machinery and arrangements thereof for cutting metals.	11,767	26th June 1847	Robert Wilson.
Machinery for cutting iron and other substances -	12,074	23rd Feb. 1848	{ James Nasmyth. Hobbrook Gaskell.
Apparatus for cutting metal washers and other articles.	12,327	16th Nov. 1848	Alexander Balfour.
Machinery for planing and cutting metal and other materials - - - - }	12,551	28th March 1849	{ James Fletcher. Thomas Fuller.
Sawing or cutting metals - - - - }	12,837	10th Nov. 1849	Charles Matthew Barker.
Machinery for cutting metals - - - - }	12,907	19th Dec. 1849	Joseph Whitworth.
Machinery for shearing and shaping and compressing metals.	12,926	12th Jan. 1850	John Glasgow.
Machinery for cutting metals - - - - }	13,672	24th June 1851	John Holmes.
Shearing metals - - - - }	13,792	30th Oct. 1851	Michael Scott.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Cutting, shaping, and pressing metal and other materials.	13,853	10th Dec. 1851	John Frearson.
Cutting, shaping, and dressing metals; machinery used therein.	13,890	8th Jan. 1852	Charles Dixon Archibald.
Machinery for cutting metals and other substances;—applicable to other purposes.	14,315	7th Oct. 1852	Solomon Andrews.
<b>XX.—Welding and Rivetting.</b>			
Annealing, beating or working iron, steel, brass, copper or other metals, with a fire of sea-coal, pit-coal, or stone-coal, without charking or mixing the same with charcoal, or by use of any other fuel except wood or fuel made from wood.	91	22nd April 1636	Sir Phillibert Vernatt, Knt.
Method of raising copper battery cold in common battery mills, without cramping or nailing, and fit for brewing-furnaces, kettles, pans, pots, and such like uses.	462	20th Feb. 1724	Henry Hines.
Machinery, furnace and apparatus, for preparing, welding, and working various sorts of iron.	1351	17th Jan. 1783	Henry Cort.
Hardening and stiffening copper, and reducing the same from large masses to any diameter and of any length and form, by the use of grooved rollers; also hardening and stiffening brass, iron, steel, mixed and compound metals that will bear drawing or beating out by forge or hammer, in either a hot, warm, or cold state.	1398	15th Nov. 1783	John Westwood.
Shingling, welding and manufacturing iron and steel, into bars, plates, and rods, of purer quality and in larger quantity than heretofore, by a more effectual application of fire and machinery.	1420	14th Feb. 1784	Henry Cort.
Preparing, shingling and welding iron with pit-coal, from the ore, also cast iron, by the application of a machine constructed to render it of superior quality and in greater quantities, also with a saving of fuel and less waste of metal.	1608	5th June 1787	William Purnell.
Making flexible or malleable metallic plates into convex or concave forms or hollow shapes.	3004	29th Jan. 1807	Benjamin Southcombe.
A combination of machinery for producing various shapes, patterns and sizes, from metals and other minerals capable of receiving an oval, round, or other form.	4882	18th Dec. 1823	Pierre Jean Baptiste Victor Gosset.
Manufacturing tubes for gas and for other purposes [ <i>welding tubes</i> ].	5109	26th Feb. 1825	Cornelius Whitehouse.
Working tilt-hammers - - - - -	5546	30th Aug. 1827	John Hague.
Machinery for joining metal and holding it whilst being operated upon.	7556	30th Jan. 1838	Charles Phillips.
Joining sheets or plates of metal for various purposes.	9816	6th July 1843	James Boydell.
Machine for rivetting leather hose and for other purposes.	10,084	27th Feb. 1844	Thomas Harbottle.
Welding sheet iron for ship-building and for other uses.	10,283	1st Aug. 1844	Benjamin Tucker Stratton
Machinery for welding and hammering - - -	10,696	3rd June 1845	Cornelius Whitehouse.
Machinery for connecting metallic plates for the construction of boilers.	10,993	10th Dec. 1845	James Garforth.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Machinery for rivetting metal plates - - - -	11,168	15th April 1846	Charles May.
Method of welding metallic compounds and other metals.	11,262	29th June 1846	John Davie Morris Stirling.
Welding pieces of metal together, and pressing or forming pieces of metal into forms or shapes.	11,598	24th Feb. 1847	Charles Fox.
Machinery for bending and fitting plates or bars of steel, iron, and other materials, for locomotive engine and carriage springs, and for other purposes.	12,173	1st June 1848	Thomas Burdell Turton.
Welding steel to cast iron - - - - -	12,735	9th Aug. 1849	William Furness.
Machinery or apparatus for manufacturing metal tubes, which improvements in machinery are in part applicable to other purposes where pressure is required [ <i>application of steam-power to presses used in making tables, and applicable also to stamping and rivetting metals</i> ].	13,035	11th April 1850	Richard Prosser.
Annealing articles of iron and other materials -	13,480	31st Jan. 1851	Richard Johnson.
Manufacture of metallic sheets; improvements in welding.	13,486	31st Jan. 1851	John Davie Morris Stirling.
Forge-hammers - - - - -	13,777	16th Oct. 1851	Thomas Henry Fromings.
Bending and rivetting metals - - - - -	13,792	30th Oct. 1851	Michael Scott.
Annealing or softening sheets of metal - - -	14,355	11th Jan. 1853	Thomas Fildes Cocker.
<b>II.—Soldering and Brazing.</b>			
Soldering metallic substances - - - - -	7059	31st May 1838	Luke Hebert.
Soldering certain metals - - - - -	10,428	12th Dec. 1844	Joseph Weiger.
Uniting certain metals and alloys - - - - -	11,811	23rd July 1847	Harry Joseph Perlbach.
Brazing matters [ <i>disclaimed</i> ] - - - - -	12,026	2nd June 1849	Moses Poole.
Treating fatty, oleaginous, resinous, bituminous, and cerous bodies; manufacture and application of them and of their components and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [ <i>application of fatty and oily substances, mixed with acids, for metallic soldering, brazing, and scouring</i> ] - - - - -	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Process for uniting cast iron to cast iron and other metals, and for uniting other metals together [ <i>soldering by agency of electricity</i> ].	13,716	14th Aug. 1851	Amie Nicolas Derode.
<b>XI.—Stamping, Pressing, Perforating, and Drilling.</b>			
Method of raising by a stamp and press, scale-pans, saucepans, warming-pans, basins, plate-covers, kettles, ladles, and various other things, out of silver, copper, and other metals.	935	28th Aug. 1769	Richard Ford.
Stamping devices on plated metals - - - -	1165	1st Aug. 1777	{ John Marston. Samuel Bellamy.
Pneumatic engine for stamping metals - - -	1775	16th Oct. 1790	Joseph Hateley.
Machine for perforating metal, plates of gold, silver, tin, platina, brass, or copper [ <i>applicable as sieves</i> ].	5241	15th Aug. 1825	Marc La Rivière.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Machinery to be applied to stamps, fly-presses, or other presses for perforating metal plates;—applicable to other purposes.	5300	28th Nov. 1825	Marc La Rivière.
Machinery for boring metals - - - - -	6850	11th June 1835	Joseph Whitworth.
Machinery for stamping up and compressing metals or other substances.	7038	22nd March 1836	Francis Gybbon Spilsbury.
Machinery for boring metals - - - - -	7382	28th March 1837	Joseph Whitworth.
Machinery for boring metals - - - - -	7441	5th Oct. 1837	Joseph Whitworth.
Machinery for punching metal and for holding metal to be punched.	7556	30th Jan. 1838	Charles Phillips.
Machinery for drilling metals - - - - -	7881	22nd Nov. 1838	John George Bodmer.
Machinery for drilling metals - - - - -	8070	20th May 1839	John George Bodmer.
Machinery for boring metals and other substances -	8185	7th Aug. 1839	Joseph Whitworth.
Machinery for boring metals and other substances -	8186	15th Aug. 1839	John Mason.
Machinery for boring metal and other substances -	8720	25th Nov. 1840	Nathaniel Batho.
Making metallic plates for stamping, pressing, or embossing.	9233	27th Jan. 1842	John James Baggaly.
Machinery for punching and compressing metals -	9238	27th Jan. 1842	{ William Galloway. John Galloway. Joseph Haley.
Machinery for stamping iron - - - - -	9382	9th June 1842	James Nasmyth.
Improvements partly applicable to stamping metals and other substances.	9850	24th July 1843	James Nasmyth.
Machinery for boring and turning metals and other substances.	10,569	29th Oct. 1844	Thomas Fuller.
Machinery for stamping metals;—applicable to other purposes.	10,590	7th April 1845	Alfred Vincent Newton.
Stamping and shaping sheet metal - - - - -	11,073	3rd Feb. 1846	Thomas Foxall Griffiths.
Machinery for punching metal plates - - - - -	11,168	15th April 1846	Charles May.
Machinery for punching metals - - - - -	11,381	24th Sept. 1846	Charles Fox.
Machinery for punching and perforating metals -	11,607	5th March 1847	Richard Roberts.
Machinery, and arrangement thereof, for stamping, punching and pressing metals and other substances.	11,767	26th June 1847	Robert Wilson.
Machinery for stamping iron and other substances - - - - -	12,074	23rd Feb. 1848	{ James Nasmyth. Hobbrook Gaskell.
Machinery for drilling metals, &c. - - - - -	12,284	12th Oct. 1848	{ Daniel Watney. John James Wentworth.
Machinery for boring and turning metals and other materials - - - - -	12,551	28th March 1849	{ James Fletcher. Thomas Fuller.
Manufacturing a certain part or parts of looms for weaving [ <i>perforating metal for mails used in weaving</i> ].	12,808	14th May 1849	Samuel Allport.
Machinery for punching and compressing metals -	12,928	12th Jan. 1850	John Glasgow.
Machinery for punching metals - - - - -	13,090	1st June 1850	Moses Poole.
Machinery for stamping metals - - - - -	13,672	24th June 1851	John Holmes.
Punching metals - - - - -	13,792	30th Oct. 1851	Michael Scott.
Machinery for stamping and shaping metals [ <i>by dies and pressure</i> ].	14,251	3rd Aug. 1852	William Hetherington.
Machinery for punching metals and other substances;—applicable to other purposes.	14,315	7th Oct. 1852	Solomon Andrews.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
<b>XII.—Ornamenting, Inlaying, and Polishing.</b>			
Lacquering on iron and all other metals, useful for armour, guns, and several other things.	293	24th March 1692	Edward Hurd.
Fashioning and colouring copper in imitation of Japan copper.	711	9th Feb. 1757	Robert Morris.
Polishing malleable metals - - - - -	740	14th July 1759	Thomas Blockley.
Inlaying metals with scaglioli or plaster, to imitate flowers, birds, &c.	978	28th Dec. 1770	John Richter.
Polishing gilt metals for buttons - - - - -	1187	20th March 1778	William Collins.
Ornamenting steel for toys, buckles, &c. - -	1621	17th Sept. 1787	John Rose.
Ornamenting metallic substances - - - - -	3593	6th Aug. 1812	Thomas Hubball.
Manufacture of an ornamented surface on metals or metallic compositions.	4146	5th Aug. 1817	Louis Felix Vallet.
Inlaying or combining different metals or other hard substances.	4404	1st Nov. 1819	Sir John Congreve.
Manufacture of ornamental metals [ <i>gold is laid with an alloy</i> ].	5378	13th June 1826	Thomas John Knowlys.
Combining glass with metals or other substances, applicable to various useful and ornamental purposes.	6072	11th Feb. 1831	John Gunby.
Glazing and enamelling cast-iron hollow-ware and other metallic substances - - - - -	8080	25th May 1839	{ Thomas Clark. Charles Clark.
Polishing metals - - - - -	8049	21st Aug. 1841	{ John Harvig. Felix Moreau.
Ornamenting and colouring metals - - - - -	8424	23rd July 1842	Charles Robert Ayres.
Manufacture of bronze and other metallic powders	8775	15th June 1843	Henry Bessemer.
Ornamenting the surfaces of metallic articles -	10,860	9th Oct. 1845	Alexander Parkes.
Glazing and enamelling the surfaces of cast iron.	11,220	26th May 1846	Timothy Kenrick.
Producing ornamental metal surfaces - - - -	11,448	12th Nov. 1846	{ Louis Hypolite Piaget. Philip Henry Du Bois.
Inlaying and coating metals with various substances	11,943	4th Nov. 1847	Cyprien Marie Tessie Du Motay.
Apparatus for dressing and finishing articles made of metal.	12,725	1st Aug. 1849	David Harcourt.
Ornamenting iron and other metals for use in the manufacture of gun-barrels and other articles.	12,732	1st Aug. 1849	Benjamin Aingworth.
Producing ornamental surfaces on metal and other materials [ <i>transferring impressions from engraved or printed surfaces on to metal, ivory, and bone, and afterwards electro-plating the metals</i> ].	13,718	14th Aug. 1851	Thomas Skinner.
Ornamenting metallic surfaces - - - - -	13,914	24th Jan. 1852	Richard Ford Sturges.
<b>XIII.—Preventing Oxydation.</b>			
Covering and combining copper or brass sheets or plates with a metallic or semi-metallic substance, to prevent corrosion - - - - -	1739	31st March 1790	{ William Collins. Charles Wyatt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>METALS, &amp;c.—continued.</b>			
Preventing premature decay in metallic substances -	4723	1st Nov. 1822	John Oxford.
Preserving copper and other metals from corrosion or oxydation.	6031	4th Nov. 1830	George Givinett Bompass.
Protecting iron chain-cables, iron boilers, and iron tanks, from corrosion produced on them by the action of water.	6040	27th Nov. 1830	John Revere.
Preserving copper in certain cases from the oxydation caused by heat.	6336	20th Nov. 1830	Jacob Perkins.
Coating iron and copper for prevention of oxydation.	7355	29th April 1837	Henry William Craufurd.
Preventing the oxydation of metals - - -	7635	5th May 1838	Pierre Armand le Comte de Fontainemoreau.
Preparing metals for prevention of oxydation - -	7704	26th June 1838	Thomas Dowling.
Preparing metals for prevention of oxydation - -	7949	24th Jan. 1839	Thomas Dowling.
Coating iron to prevent oxydation or corrosion, and for other purposes.	8403	29th Feb. 1840	James Beaumont Neilson.
Composition for the prevention of corrosion in metals, and for other purposes.	8490	2nd May 1840	Arthur Wall.
Process, mode or method of making or manufacturing lime, cement, artificial stone, and such other compositions, more particularly applicable for working under water, and in constructing buildings and other works which are exposed to damp [ <i>preserving iron from oxydation</i> ].	8914	3rd April 1841	William Edward Newton.
Protecting metals from corrosion or oxydation, and preventing the fouling of iron ships or buoys.	9018	7th July 1841	Robert Mallet.
Preserving iron and other metals from oxydation or rust.	9055	27th Aug. 1841	Edmund Morewood.
Preventing the oxydation of iron in various stages -	10,971	27th Nov. 1845	Moses Poole.
Coating metals to prevent oxydation - - -	11,063	11th Feb. 1846	Andrew Smith.
Preventing the corrosion of metal - - -	11,434	3rd Nov. 1846	Baron Charles Wetterstedt
Preventing the oxydation of iron - - -	12,437	23rd Jan. 1849	Charles Henry Paris.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MINING AND QUARRYING.</b>			
<b>I.—Boring and Sinking Shafts.</b>			
Engine for sinking shafts in mines - - -	1834	31st Oct. 1791	Richard Banks.
Apparatus for boring for coals and all kinds of mineral and subterranean substances.	2822	12th Feb. 1805	James Ryan.
Apparatus to facilitate excavating, sinking, and mining.	4018	20th Oct. 1830	Sir Thomas Cochrane, Knight.
Apparatus for boring into the earth - - -	11,548	28th Jan. 1847	James Taylor.
Machinery for boring and sinking - - -	11,913	21st Oct. 1847	William Gostuyck Gard.
Mining operations and machinery connected therewith [ <i>drill for boring earth</i> ].	14,014	8th March 1852	William Pidding.
Machinery and apparatus used in quarrying slate and stone [ <i>sinking shafts by means of a stone drill and a revolving turn-table</i> ] - - -	14,165	12th June 1852	{ Edwyn John Jeffery Dixon. Arthur John Dodson.
<b>II.—Working Mines and Quarries; Apparatus for destroying Fire-damp; exploding Military and other Mines.</b>			
Digging, searching, and working mines of gold, silver, copper, or lead mixed with silver or quick-silver; erecting houses, mills, and works for carrying on the same - - -	117	2nd May 1638	{ Sir George Horsey, Knt. David Ramsey. Roger Foulke. Dudd Dudley.
Engines partly applicable to the working of mines and coal-pits - - -	288	22nd Jan. 1692	{ Charles Morton. Samuel Weale.
Making corf-bows of iron instead of wood as heretofore made, with springs and screws, for drawing up coals from the pit.	499	7th June 1728	Read Hodgshon.
Engine for drawing up ore, coal or minerals from mines or pits.	547	12th Sept. 1734	Anthony Parsons.
Machine for raising coals and great weights out of pits and mines.	609	6th Sept. 1744	William Perkins.
Machine turned by wind, for raising metal ore or other weights from quarries, pits, or other great depths.	643	9th May 1749	Richard Langworthy.
Machine for drawing coals, stone, water, ore, and other heavy bodies out of pits, mines, and other places of great depth - - -	648	29th July 1749	{ Thomas Stokoe. William Newton.
Machine for carrying coals from the coal walls to the bottom of the shaft, and from the mouth of the shaft to the heaps, and for other purposes.	653	9th Feb. 1750	Michael Meinzie.
Working mines of coal and metals - - -	762	20th May 1761	Michael Meinzie.
Engine for working mines and coal-pits - - -	775	21st May 1762	John Walkenshaw.
Machine for drawing coals out of pits by the help of a fire engine, also for other purposes.	795	29th July 1763	Joseph Oxley.
Raising coals from mines by fire, by water, or by both jointly.	805	26th Nov. 1766	John Barber.
Machine or water-wheel for drawing coals by the agency of water, or for other purposes; which machine also counterbalances ropes made use of for such purposes.	871	13th March 1767	Joseph Oxley.
Machine for drawing coals, stones, earth, rubbish, and water, from coal-pits and other pits to the bank, and conveying the same and other heavy burdens to any distance.	883	2nd Nov. 1767	Thomas Stokoe.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MINING, &amp;c.—continued.</b>			
Machine for raising metals, minerals, or other heavy materials, from great depths by aid of horses, or by water movement, by means of a double barrel on an inserted principle, having at the same time an increasing and decreasing power, gathering strength as it draws.	1025	5th Nov. 1772	John Budge.
Machine for raising ores, &c., from mines - - -	1044	17th June 1773	Christopher Gullett.
Machine for raising coals, ores, and minerals from great depths.	1118	12th March 1776	John Barber.
Raising metals and other heavy bodies from mines } by balancing the rope in the shaft - - - }	1132	23rd Aug. 1776	{ William Knowles. John Holman.
Engine and wheel-carriage with suitable machinery and apparatus, to break up, raise, load, carry, shoot and otherwise work, mould, gravel, stones, chalk, and other materials and substances, without manual labour.	1366	3rd May 1783	William Driver.
Raising coals and ores - - - - -	1525	28th Jan. 1786	Robert Cameron.
Machine for drawing coals, lead, tin, and other materials out of mines.	1529	4th Feb. 1786	James Storey.
Machine to be worked by the wind, for drawing water, coals, tin, lead, copper, and other materials from mines.	1588	1st Feb. 1787	Benjamin Heame.
Machine for raising coals or other minerals without the aid of horses, fire, wind, or water.	1649	5th May 1788	John Beaumont.
Raising coals, lead and other minerals out of mines, so as to prevent the corves running foul of each other; platform for landing and delivering.	1660	12th Aug. 1788	John Curr.
Machine for raising coals and ore from mines; also machinery used in coal mines.	1702	5th Sept. 1789	Robert Cameron.
Pneumatic engine for raising coals, mineral and fossil bodies from mines.	1775	16th Oct. 1790	Joseph Hateley.
Constructing a machine for removing rocks, and for other purposes.	1862	29th March 1792	Lewis Feuillade.
Applying ropes for raising coals, metals or minerals out of mines, or for conveying goods in situations where ropes are worked over wheels, rollers, sheaves or pulleys.	1924	17th Dec. 1792	John Curr.
Machinery for raising and conveying coals, ores, or other minerals from mines.	2294	12th Feb. 1799	Humphrey Jeffreys.
Applying the power of a reciprocating steam-engine to the crank or rotative axis, for drawing coals, lead, tin, &c., out of mines, or for carrying or drawing machinery for any other purpose.	2378	28th Feb. 1800	Phineas Crowther.
Prop for supporting the roofs of mines - - -	2609	10th April 1802	John Charlton.
Machinery for raising coals, ores, and minerals from mines.	2632	28th June 1802	Matthew Murray.
Working coal in lead and other mines - - -	2926	1st April 1806	Samuel Miller.
Reducing the wear and prolonging the duration of ropes for drawing coals or other minerals from pits or mines.	3026	8th April 1807	William Chapman.
Discharging or giving fire to mines, chambers, cavities and places in which gunpowder and other combustible matter is or may be put for the purpose of explosion.	3082	11th April 1807	Alexander John Forsyth.
Conveying coals and other minerals in the working of mines; returning the empty carriages.	3126	27th April 1808	William Chapman.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MINING, &amp;c.—continued.</b>			
Instruments used for mining and other purposes -	3045	30th Jan. 1813	Robert Dunkin.
Machinery for raising gravel or earth from the bottom of pits.	3672	27th March 1813	John Hughes.
Applying flat ropes to horse-gins and perpendicular drum shafts of steam-engines, for mining purposes.	3711	29th June 1813	John Curr.
Working or getting the main or thick mine of coals	4236	14th March 1818	{ John Read. William Howell.
Fireworks [employing self-igniting paper crackers for firing the trains of mines].	4853	16th Oct. 1823	Sir William Congreve.
Apparatus for destroying fire-damp in mines - -	5348	22nd April 1826	William Wood.
Machinery for facilitating the working of mines, and for facilitating the extraction of diamonds and other precious stones, also gold, silver, and other metals from the ore, the earth, or the sand;—applicable to other purposes.	5428	13th Dec. 1826	Charles Harsleben.
Application of a battering-ram to the purpose of working coal in mines.	6056	23rd Dec. 1830	William Wood.
Instrument for igniting gunpowder when used for blasting rocks, and in mining—"Miner's safety fuse."	6159	6th Sept. 1831	William Bickford.
Machinery for raising earth and for other purposes -	6978	11th Jan. 1836	Jacob Tilton Slade.
Hooks and bow for corves, baskets, buckets, and other vessels used for raising and lowering loads in mines, pits, wells, shafts, quarries, and collieries.	6993	1st Feb. 1836	Stephen Reed.
Ladder or machinery applicable to the working of mines and to other useful purposes.	7054	7th April 1836	John Spurgin.
Machinery and apparatus for working in mines -	9414	9th July 1842	John Peter Booth.
Working coal mines and quarries of stone, marble, and slate.	9636	20th Feb. 1843	William Newton.
Fuses and other like explosive instruments [for firing mines].	10,364	24th Oct. 1824	Henry Caorbines.
Blasting rocks and other mineral substances, for mining and other purposes; apparatus to be used in such works.	10,579	27th March 1845	Joseph Conrad Marie, Baron de Liebhaber.
Machinery for raising coal or other matter from mines; also applicable to raising or lowering men or animals, and to other purposes - -	10,877	10th Oct. 1845	{ James Knowles. Alonzo Buonaparte Woodcock.
Manufacture of the miner's safety fuse - - -	10,926	6th Nov. 1845	{ John Solomon Bickford. George Smith. Thomas Davey.
Mine lifting machinery, applicable to other purposes	10,941	15th Nov. 1845	Thomas Palmer.
Apparatus for working mines - - - -	11,129	11th March 1846	{ George Hinton Bovill. Robert Griffiths.
Working coal or coal mines - - - - -	11,174	21st April 1846	William Heward Bell.
Manufacture of explosive compounds [preparing gun-cotton for exploding mines].	11,407	8th Oct. 1846	John Taylor.
Safety fuse - - - - -	11,447	12th Nov. 1846	George Smith.
Apparatus for raising and lowering weights from mines.	11,557	1st Feb. 1847	Edward Newman Fourdrinier.
Manufacture of fuses [for firing mines] - - -	12,406	12th Jan. 1849	Michael Loam.
Machinery for raising and lowering weights and persons in mines.	12,746	23rd Aug. 1849	Charles Cowper.
Explosive compositions and instruments [for charging mines] - - - - -	13,215	6th Oct. 1850	{ Alexander Melville. Edward Callow.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MINING, &amp;c.—continued.</b>			
Blasting rocks - - - - -	18,344	14th Nov. 1850	Joseph Conrad Baron Liebhaber.
Process and instruments for sinking shafts for mining and other purposes; lining such shafts -	13,478	30th Jan. 1851	{ Charles Gotthelf Kind. Charles Alexis de Wendel.
Quarrying certain substances - - - - -	13,754	25th Sept. 1851	Robert Roberts.
Mining operations and machinery connected therewith [ <i>blasting rocks</i> ].	14,014	8th March 1852	William Pidding.
Explosive compounds and fuses, also methods of firing the same [ <i>fuses for blasting operations</i> ] -	14,065	15th April 1852	{ Simon Davey. Adolphe Ludovic Chann.
Machinery and apparatus used in quarrying slate and stone [ <i>horizontal drills to facilitate the blasting of slabs of slate</i> ] - - - - -	14,165	12th June 1852	{ Edwyn John Jeffery Dixon. Arthur John Dodson.
<b>III.—Conveying and unloading Coals, Slate, and other Materials.</b>			
Machine for conveying earth or other heavy burdens from coal-pits.	883	2nd Nov. 1767	Thomas Stokoe.
Carriage for conveying and discharging coals, lime, soil, manure, stones, gravel, sand, rubbish, and other materials.	2092	27th Feb. 1796	Henry Clay.
Carriages for unloading of heavy coals and other things.	3336	9th May 1810	John Bosworth.
Mechanical means whereby the conveyance of coals, minerals and other articles is facilitated and the expense reduced.	3431	10th April 1811	John Blenkinsopp.
Apparatus and waggon used for moving and conveying slate and stone - - - - -	14,165	12th June 1852	{ Edwyn John Jeffery Dixon. Arthur John Dodson.
<b>MOTIVE-POWER AND PROPULSION.</b>			
<b>I.—Obtaining and applying Motive and Mechanical Power.</b>			
A method whereby all motions caused by the force of a river, wind, or horses, may be produced by the strength of one or two men.	136	24th March 1662	James Wemis.
Obtaining a motive-power from the ebbing and flowing of the water operating on a vessel floating thereon, which by its rising or falling gives motion to mills, engines, &c.	315	3rd March 1693	John Hadley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Obtaining a motive-power by means of expanding fluids.	555	15th Nov. 1736	John Payne.
Method for the improvement of mechanics and hydraulics by diminishing friction, generating and producing motion and power in solid and fluid bodies, collecting the force of fluids already in a state of motion, and communicating the motion and power thus generated to all kinds of machines, particularly to those for raising water.	558	17th June 1737	David Stephenson.
Machine constructed on self-moving principles -	1228	16th June 1779	John Dietrick Muller.
Mechanical motion applied to clocks and timepieces, jacks for roasting, and cranes for raising weights; also to other purposes.	1650	20th May 1788	James White.
Procuring motion by inflammable air - - -	1833	31st Oct. 1791	John Barber.
Exerting and putting in motion apparatus, whether pneumatic, chemical or pneumato-chemical; also continuing the same in motion by the decomposition, recombination, expansion and condensation of permanently elastic fluids, and thus producing power sufficient to move machinery and to continue the same in motion.	1879	6th March 1794	Thomas Mead.
Producing an inflammable vapour force by means of liquid, air, fire, and flame, for giving motion to engines, pumps, and machinery.	1983	7th May 1794	Robert Street.
Perpetual moving power - - - - -	2181	29th May 1797	Richard Varley.
Constructing pumps and engines for producing power.	2190	17th Aug. 1797	Anthony George Eckhardt.
Draught or moving of carriages of all descriptions -	2254	3rd Aug. 1798	Stephen Halladay.
Making and constructing engines for producing power, particularly adapted for ships and vessels.	2260	23rd Aug. 1798	George Dodgson.
Machine upon hydrostatic principles, for producing mechanical power, applicable to all the purposes of a steam-engine, but without the use of fire, steam, or water-wheel.	2297	28th Feb. 1799	John Luccock.
Engine for giving motion to water or other fluids, either for conveying such fluids, or for mechanical purposes.	2304	11th April 1799	Samuel Rehe.
Producing a power to move machinery and reduce labour, by means of fire, water, and steam, with or without condensation.	2341	23rd Sept. 1799	John Bishop.
Mechanical power for lifting weights, moving ships, weighing anchors, &c.	2346	3rd Oct. 1799	John Hotchkis.
Perpetual power to give motion to machinery -	2535	20th Aug. 1801	William Parkes.
Machine for gaining speed and power in all mechanical operations by land and water - - - }	2546	30th Oct. 1801	{ Richard Brayshay. William M <sup>c</sup> Mahon.
Mechanical powers, applicable to steam-engines;—partly applicable to other purposes.	2576	28th Jan. 1802	James Sharples.
Obtaining a vacuum or vacua for gaining powers applicable to hydraulic, pneumatic, and mechanical machines or engines, or any others where fluids, steam, or vapour may be used or applied.	2593	9th March 1802	Christopher Wilson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Mechanical power for raising great weights, preventing ships from sinking, raising ships when sunk, rendering ships capable of entering rivers, passing bars or shoals, or otherwise moving in shallow water, and for other purposes.	2676	29th Jan. 1803	George Matcham.
Combinations and arrangements of implements and mechanical powers.	2794	24th Nov. 1804	James Sharples.
Engine producing a force by means of the impetus one part of a fluid body has to an equal altitude.	2805	19th Dec. 1804	Edward Steers.
Obtaining, producing, using and cultivating a moving power or force.	3105	4th Feb. 1808	John Dumbell.
Employing the expansive force of steam advantageously.	3163	24th Aug. 1808	Thomas Mead.
Combination of wheels for gaining mechanical power [ <i>for driving machinery</i> ].	3302	12th Feb. 1810	William Doughty.
Power applicable to propelling vessels and boats through the water, and for pumping them.	3628	19th Dec. 1812	John Morgan.
Giving effect to various operating processes,—being a new hydraulic power.	3861	12th Dec. 1814	Henry Julius Winter.
Producing power and motion, and applying the same to presses and other mechanical apparatus.	3994	14th March 1816	{ William West. Daniel West.
Methods of generating, creating, and applying power by means of steam or other fluids, elastic or non-elastic, for driving or working all kinds of machinery including the steam-engines now in use; applicable also to other purposes where heat is employed as an agent, or when the saving of fuel is desirable.	4058	14th Aug. 1816	James Neville.
Machine for acquiring high mechanical power in a small compass with little friction, and without the possibility of running amain when employed in raising or lowering heavy weights.	4213	27th Jan. 1818	William Horner.
Propelling power for ploughs and other machinery -	4336	26th Jan. 1819	Matthew Thomas.
Combination of machinery to increase power, and to be worked by manual labour or other suitable means.	4349	13th March 1819	William Neale.
Combinations of apparatus for gaining power [ <i>for moving water-wheels</i> ].	4364	1st May 1819	Robert Copland.
Application of gases and vapours as a moving power, &c. - - - - - }	4405	1st Nov. 1819	{ Israel Gundry. Edward Neave, Josiah Neave.
Combining, adjusting, and applying by machinery, certain mechanical powers and modifications thereof in cases where power and velocity are required.	4457	11th May 1820	James Scott.
Combination of or additions to machinery calculated to increase power.	4467	3rd June 1820	William Bate.
Procuring a mechanical power - - - - -	4656	2nd March 1822	John Ruthven.
Combinations of apparatus for gaining power [ <i>improvements on Patent No. 4364</i> ].	4749	16th Jan. 1823	Robert Copland.
Engine for producing power by forming a vacuum [ <i>by explosion of inflammable gas</i> ].	4874	4th Dec. 1823	Samuel Brown.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Construction of machinery to obviate concussion by means of preventing counteraction, and for converting friction into a propelling power.	4904	19th Feb. 1824	Moses Isaacs.
Obtaining power applicable to machinery - - -	5191	18th June 1825	Edward Jordan.
Mechanical arrangements for obtaining powers from certain fluids, and applying them to useful purposes [ <i>from the condensation of carbonic acid gas</i> ].	5212	16th July 1825	Marc Isambard Brunel.
Machine for impelling power without aid of fire, water, or air.	5250	15th Sept. 1825	William Jefferies.
Producing power by applying steam without pressure to machinery.	5323	19th Jan. 1826	Abraham Robert Lorent.
Engine for producing powers by effecting a vacuum	5350	25th April 1826	Samuel Brown.
Combinations of apparatus for gaining power [ <i>improvements on Patents Nos. 4364, 4749</i> ].	5452	16th Jan. 1827	Robert Copland.
A new motive-power [ <i>capillary attraction acting on a series of sponges</i> ].	5461	8th Feb. 1827	Sir William Congreve.
Constructing and working an engine for producing } power and motion - - - - - }	5530	1st Aug. 1827	{ William Parkinson. Samuel Crossley.
Apparatus for generating power - - - - -	5585	13th Dec. 1827	Henry Peto.
Combinations of machinery for generating power and motion.	5591	19th Dec. 1827	Thomas Stanhope Holland.
Apparatus for generating power;—applicable to other purposes [ <i>by a combination of vibrating levers</i> ].	5664	12th June 1828	Edmund Gibson Atherley.
Machine for obtaining mechanical power from falls and running streams of water.	5710	25th Sept. 1828	James Neville.
Mechanical power applicable to machinery of different descriptions.	5859	28th Oct. 1829	Thomas John Fuller.
Mechanical power applicable to machinery of different descriptions - - - - - }	5943	19th June 1830	{ Thomas Brunton. Thomas John Fuller.
Producing mechanical power from chemical agents -	5947	29th June 1830	Samuel Parker.
Economizing power applied to pressing machinery -	6010	13th Oct. 1830	David Napier.
Machinery for acquiring power in tides or currents -	6171	28th Sept. 1831	Oliver St. George.
Machinery for acquiring power in rivers and currents	6368	22nd Jan. 1833	John M'Curdy.
Engine for producing motive-power whereby a greater quantity of power is obtained from a given quantity of fuel.	6409	4th April 1833	John Ericsson.
Certain mechanical powers which may be applied to various useful purposes.	6502	5th Nov. 1833	Joseph Wass.
Engine for producing motive-power - - - - -	6510	19th Nov. 1833	Barthelemy Richard Comte de Prédaval.
Combination and arrangement of machinery whereby known agents may be employed in producing power; mode of effecting the same, applicable to various useful purposes.	6525	16th Dec. 1833	Lemuel Wellman Wright.
Combination of machinery as a motive-power for steam-navigation, and in lieu of power obtained by application of steam.	6534	21st Dec. 1833	John Howard Kyan.
Constructing apparatus from which a motive principle of power is obtained; increasing such motive principle, applicable to various purposes.	6585	29th March 1834	John Cooper Douglas.
Apparatus for producing motive-power or a self-acting motive-power.	6614	24th May 1834	Philip Augustus De Chapeaurouge.
Apparatus for producing motive-power - - - - -	6786	11th March 1835	William Hale.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Machine for producing motive-power - - -	6802	31st March 1835	Philip Augustus De Chapeaurouge.
Practical application of known principles to produce mechanical power.	6890	24th Aug. 1835	Theodore Schwartz.
Acquiring power for the purposes of propelling carriages, barges, and other contrivances for conveying goods and passengers.	7043	22nd March 1836	Sir George Scott Lillie.
Combinations of apparatus for gaining power [ <i>improvements on Patents Nos. 4364, 4749, 5452</i> ].	7057	9th April 1836	Robert Copland.
Machinery for generating power, applicable to various purposes.	7066	23rd April 1836	Hamer Stansfield.
Machinery for obtaining mechanical power by aid of steam - - - - -	7072	26th April 1836	{ William Taylor. Henry Davies.
Mechanism for obtaining power and motion, to be used as a general mechanical agent ("rotæ vivæ").	7099	18th May 1836	Thomas Beck.
Mechanical combination for obtaining power and velocity, applicable to machinery.	7144	11th July 1836	Matthew Heath.
Application of a principle by which mechanical power may be obtained or applied.	7179	1st Sept. 1836	James Surrey.
Combinations of apparatus for gaining power [ <i>improvements on Patents Nos. 4364, 4749, 5452, 7057</i> ].	7216	5th Nov. 1836	Robert Copland.
Obtaining power and motion from known sources -	7235	24th Nov. 1836	Joseph Woollams.
Machinery for generating power, applicable to various purposes.	7240	3rd Dec. 1836	Moses Poole.
Mechanism for obtaining power and motion, to be used as a general mechanical agent ("rotæ vivæ").	7255	15th Dec. 1836	Richard Thomas Beck.
Machinery for obtaining mechanical power - - -	7325	15th March 1837	Henry Davis.
Obtaining power and motion from known sources -	7381	30th May 1837	Joseph Woollams.
Obtaining motive-power for propelling or working machinery [ <i>by electro-magnetism</i> ].	7386	6th June 1837	Miles Berry.
Combinations of machinery to be applied as mechanical agents in situations where toothed gear and other mechanism have hitherto been used.	7394	17th June 1837	James Buckingham.
Mechanism for obtaining power and motion, to be used as a general mechanical agent ("rotæ vivæ").	7415	9th Aug. 1837	Richard Thomas Beck.
Producing or obtaining motive-power - - - -	7547	20th Jan. 1838	Ambrose Ador.
Obtaining and regulating power - - - - -	7553	27th Jan. 1838	William Bate.
Production of motive-power - - - - -	7615	18th April 1838	William Barnett.
Mechanism for obtaining power and motion, to be used as a general mechanical agent ("rotæ vivæ").	7670	5th June 1838	Richard Thomas Beck.
Machines to be used for obtaining mechanical power	7686	14th June 1838	Henry Davis.
Machinery for producing motive-power, also for other purposes [ <i>by electro-magnetism</i> ].	7739	11th July 1838	Louis Cyprien Callett.
Machinery to be worked by the application of the expansive force of air or other elastic fluid, to obtain motive-power.	7859	8th Nov. 1838	Bryan l'Anson Bromwich.
Obtaining motive-power - - - - -	7871	13th Nov. 1838	{ Anne Bird Byerley. James Collier.
Production of motive-power, and machinery for applying the same	7903	12th Dec. 1838	John Alexander Alzear De Grande.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Obtaining tractive power from carriage wheels -	7992	6th March 1839	William Vickers.
Machine for employing steam or other elastic fluid as a motive-power.	8082	30th May 1839	Alexander Gordon.
Obtaining motive-power - - - - -	8083	6th June 1839	Arthur Parsey.
Machinery to be worked by the application of the expansive force of air or other elastic fluids, to obtain motive-power.	8110	17th June 1839	Bryan l'Anson Bromwich.
Increasing the power of water upon water-wheels and other machinery.	8247	24th Oct. 1839	James Sutcliffe.
Engines for obtaining power - - - - -	8250	2nd Nov. 1839	{ David Greenwood. William Pickering.
Obtaining power by electro-magnetism - - -	8255	2nd Nov. 1839	William Hannis Taylor.
Obtaining power - - - - -	8282	25th Nov. 1839	John Sutton.
Applying water-power - - - - -	8287	2nd Dec. 1839	George Davey.
Obtaining motive-power - - - - -	8312	16th Dec. 1839	Jacob Brazil.
Obtaining power - - - - -	8337	7th Jan. 1840	Moses Poole.
Obtaining power for locomotive and other purposes; and applying the same.	8361	8th Feb. 1840	Edmund Rudge, junior.
Obtaining power - - - - -	8407	13th April 1840	Edward Thomas Bainbridge.
Obtaining power from steam and elastic vapours or fluids; means employed in generating such vapours or fluids; using these improvements in conjunction with distillation or evaporation and other useful purposes.	8474	15th April 1840	Thomas Robinson Williams.
Obtaining motive-power - - - - -	8530	2nd June 1840	Samuel Salisbury Eagles.
Instrument or apparatus to be used in whale fishery, part or parts of which upon an increased scale are also applicable as a motive-power for driving machinery.	8541	11th June 1840	William Lance.
Applying steam as a motive-power - - -	8583	1st Aug. 1840	William Daubeny Holmes.
Machinery for obtaining and applying motive-power	8628	10th Sept. 1840	George Alexander Gilbert.
Producing or obtaining motive-power - - -	8650	1st Oct. 1840	{ William Henry Fox Talbot.
Apparatus for obtaining motive-power - - -	8771	4th Jan. 1841	Charles Golightly.
Obtaining motive-power - - - - -	8841	8th Feb. 1841	James Johnston.
Increasing the power of certain media when acted upon by rotary fans or other similar apparatus.	8890	22nd March 1841	Morris West Ruthven.
Obtaining a motive-power by voltaic electricity, applicable to engines and in other cases where power is applied.	8937	27th April 1841	William Petrie.
Obtaining mechanical power, applicable to obtaining rapid motion.	8991	19th June 1841	William Petrie.
Machine for obtaining motive-power by gases or vapour produced by combustion.	9004	23rd June 1841	Miles Berry.
Means and apparatus for obtaining motive-power and rendering more effective the use of known agents of motion.	9056	27th Aug. 1841	Miles Berry.
Obtaining and applying motive-power by winds and waves, for propelling vessels on water, and driving machinery.	9085	17th Sept. 1841	Conrad Frederick Stollmeyer.
Methods of obtaining power from the use of steam -	9110	7th Oct. 1841	John Jones.
Application of steam to mechanical power [ <i>this part of the patent was disclaimed</i> ].	9168	9th Dec. 1841	John Hall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Obtaining motive-power by means of carbonic acid, and by a peculiar application of heated air.	9251	9th Feb. 1842	Isham Baggs.
Pneumatic engine for producing motive-power -	9419	12th July 1842	William Henry Stuckey.
Applying steam or other power to locomotive purposes.	9560	15th Dec. 1842	James Winchester.
Combining mechanical instruments for obtaining power	9567	22nd Dec. 1842	Henry Purser Vaile.
Machinery for producing or obtaining motive-power	9609	26th Jan. 1843	William James Greenstreet.
Application of steam, air, and other vapours and gaseous agents, for the production of motive-power; machinery for effecting the same.	9658	7th March 1843	James Pilbrow.
Obtaining power by means of gases, applicable to working machinery.	9840	13th July 1843	James Neville.
Obtaining aerial locomotion - - - - -	9856	26th July 1843	William Crofton Moat.
Obtaining power - - - - -	9867	15th Aug. 1843	Thomas Young.
Applying atmospheric air as a motive-power - -	9945	16th Nov. 1843	Ramsay Richard Reinagle.
Construction and mode of working engines by the agency of air or gases, for obtaining motive-power.	9972	6th Dec. 1843	Joseph Robinson.
Construction of engines for producing and communicating motive-power by elastic force of steam, or by manual or animal labour.	10,028	30th Jan. 1844	Ezra Washington Burrows.
Obtaining and applying motive-power for propelling and raising heavy bodies.	10,045	8th Feb. 1844	William Edward Newton.
Hydraulic machinery to be used as a motive-power -	10,077	24th Feb. 1844	Gaspere Sonti.
Producing motive-power - - - - -	10,189	17th May 1844	John M'Intosh.
Obtaining and applying motive-power - - - -	10,212	4th June 1844	William Henry Phillips.
Improvements which may be employed in obtaining motive-power.	10,263	17th July 1844	Jaques Bidault.
Obtaining and applying motive-power for working or driving thrashing machines, mills, chaff-cutters or other machines.	10,314	12th Sept. 1844	James Vibart.
Obtaining motive-power - - - - -	10,352	17th Oct. 1844	Arthur Parsey.
Obtaining motive-power for working locomotive carriages and other machinery.	10,404	25th Nov. 1844	John William Buckle Reynolds.
Obtaining and applying motive-power to impelling machinery.	10,447	27th Dec. 1844	Henry Pinkus.
Obtaining motive-power; application of motive-power to railways.	10,539	3rd March 1845	William Henry Fox Talbot.
Producing motive-power by the action or agency of heat; application of that power to purposes of locomotion or navigation.	10,544	3rd March 1845	Alexander Gordon.
Engines for obtaining and applying motive-power -	10,643	29th April 1845	James Nasmyth.
Obtaining and applying motive-power - - - -	10,688	24th May 1845	Richard Fell.
Application of motive-power for locomotive and other purposes.	10,702	3rd June 1845	John Lionel Hood.
Obtaining motive-power by air - - - - -	10,736	26th June 1845	Isham Baggs.
Obtaining and applying motive-power - - - -	10,767	12th July 1845	Horatio Sydney Sheaf.
Hydro-mechanic apparatus for producing motive-power.	10,711	7th June 1845	William Willcocks Sleigh.
Applying steam as a motive-power - - - -	10,775	21st July 1845	Julius Adolph Detmold.
Obtaining and applying motive-power - - - -	10,793	30th July 1845	John Paltrineri.
Obtaining motive-power - - - - -	10,822	28th Aug. 1845	Mathieu François Isoard.
Obtaining power - - - - -	10,830	18th Sept. 1845	Joseph François Lanbureau.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Machines for obtaining mechanical power - - -	10,816	2nd Oct. 1845	George Daniel Bishopp.
Obtaining and applying motive-power - - -	10,848	2nd Oct. 1845	John Simpson.
Obtaining motive-power - - - - -	10,867	10th Oct. 1845	David Wilkinson.
Application and combination of mechanical (or of mechanical and hydrostatical) arrangements for augmenting the power of first moving machines or engines.	10,940	13th Nov. 1845	Joseph Ramon Yglesias.
Obtaining and applying motive-power - - -	11,058	22nd Jan. 1846	Frederick William Campin.
Engine for producing motive-power - - -	11,062	29th Jan. 1846	Augustus Turk Forder.
Obtaining and applying motive-power - - -	11,066	31st Jan. 1846	Michael Rimington.
Obtaining and applying motive-power - - -	11,077	11th Feb. 1846	{ Thomas Clarke. Mark Freeman. John Varley.
Machinery for raising water and other liquids, and also thereby to obtain mechanical power.	11,081	11th Feb. 1846	Charles Tetley.
Engines or machines for obtaining and applying motive-power.	11,091	16th Feb. 1846	Thomas Nasmyth.
Obtaining motive-power - - - - -	11,245	17th June 1846	William Cormack.
Apparatus and mode of applying power for raising and lowering weights.	11,259	22nd June 1846	William Topling Nesham.
Obtaining motive-power and applying the same -	11,273	29th June 1846	Sir James Caleb Anderson.
Machinery for obtaining motive-power; — partly applicable for other useful purposes.	11,278	6th July 1846	James Thompson.
Employing steam as a motive-power - - -	11,323	4th Aug. 1846	Charles Vignoles.
Machine for obtaining and applying, accelerating and retarding motive-power - - - - }	11,442	5th Nov. 1846	{ Frederick Herbert Maberly Thomas Branwhite. Dennis Lusher.
Obtaining motive-power - - - - -	11,452	17th Nov. 1846	William Eaton.
Obtaining and applying motive-power - - -	11,475	7th Dec. 1846	William Henry Fox Talbot.
Obtaining motive-power - - - - -	11,532	16th Jan. 1847	Frederick Lesnard.
Obtaining and applying motive-power - - -	11,559	1st Feb. 1847	Marco Henry Franzoni.
Obtaining and applying motive-power - - -	11,570	8th Feb. 1847	Stephen Geary.
Engines for obtaining and applying motive-power -	11,627	17th March 1847	Robert Scotthorn.
Obtaining and applying motive-power - - -	11,637	23rd March 1847	William Bullock Tibbits.
Obtaining motive-power - - - - -	11,770	28th June 1847	Henry Hornblower.
Obtaining and applying motive-power - - -	11,897	7th Oct. 1847	{ Richard Fell. James Fell.
Machinery for obtaining motive-power - - -	11,999	18th Dec. 1847	William Westbrooke Squires.
Obtaining and applying motive-power - - -	11,932	2nd Nov. 1847	Anthony Bernhard Von Rathen.
Obtaining and applying motive-power - - -	12,060	16th Feb. 1848	John Weston.
Obtaining motive-power - - - - -	12,061	9th Feb. 1848	Gustav Adolph Buchholz.
Obtaining and applying motive-power - - -	12,069	16th Feb. 1848	John Weston.
Obtaining motive-power by the aid of atmospheric air.	12,085	8th March 1848	John Houston.
Obtaining and applying motive-power; machinery and engines employed therein.	12,088	8th March 1848	Joseph Maudslay.
Mechanical arrangements for obtaining and applying motive-power.	12,155	11th May 1848	Vincent Price.
Obtaining motive-power - - - - -	12,181	8th June 1848	Paul Marie Darlu.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Obtaining motive-power - - - - -	12,196	28th June 1848	John M <sup>c</sup> Intosh.
Means of obtaining power from steam-engines -	12,209	11th July 1848	Felix Alexander Testud De Beauregard.
Motive-power - - - - -	12,269	15th Sept. 1848	William Sager.
Obtaining motive-power - - - - -	12,293	19th Oct. 1848	Joseph Eugene Ascert.
Electro-magnetism, and its application as a motive-power; also its application generally to engines, ships, and railways.	12,295	26th Oct. 1848	Soren Hjorth.
Obtaining and applying motive-power - - -	12,303	2nd Nov. 1848	William Bullock Tibbits.
Machinery for obtaining and applying motive-power	12,429	20th Jan. 1849	William Boggett.
Apparatus in part applicable to motive purposes -	12,431	20th Jan. 1849	Samuel Brown.
Obtaining and applying motive-power - - -	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Machinery for obtaining power - - - - -	12,533	24th March 1849	John M <sup>c</sup> Intosh.
Means of obtaining and applying motive-power -	12,633	5th June 1849	Thomas Lawes.
Obtaining motive-power when steam and air are used.	12,649	7th June 1849	John Houston.
Obtaining motive-power;—partly applicable to similar purposes.	12,654	7th June 1849	Stanhope Baynes Smith.
Obtaining motive-power; machinery employed therein.	12,655	9th June 1849	Joseph Samuda.
Engines and machinery for obtaining and applying motive-power.	12,690	4th July 1849	William Henry Wilding.
Application of electric and galvanic instruments } and apparatus to motive purposes - - - }	12,772	20th Sept. 1849	{ William Edwards Stott William Petrie.
Obtaining motive-power for giving motion to machinery.	12,788	27th Sept. 1849	Nicholas Doran Maillet.
Generating and applying motive-power - - -	12,815	18th Oct. 1849	Ethan Campbell.
Instruments for obtaining motive-power from air, steam, and other fluids.	12,889	15th Dec. 1849	Charles Cowper.
Application of steam and other power engines to motive purposes.	12,924	11th Jan. 1850	Alfred Cooper.
Obtaining motive-power - - - - -	12,930	17th Jan. 1850	Henry Cowing.
Obtaining and applying motive-power - - -	12,933	17th Jan. 1850	William George Henry Taunton.
Instruments and machinery for obtaining power -	12,941	24th Jan. 1850	{ Joseph Long. James Long. Richard Pattenden.
Obtaining power in the floating of bodies and in conveying fluids.	12,968	12th Feb. 1850	John Macintosh.
Producing motive-power - - - - -	13,006	18th March 1850	George Jenkins.
Obtaining power - - - - -	13,096	3rd June 1850	George Haywood Ford.
Machinery for obtaining motive-power ( <i>horse-power for driving machinery for agricultural and other like purposes</i> ).	13,139	19th June 1850	Isaac Hartas.
Obtaining and applying motive-power; apparatus for the purpose.	13,174	15th July 1850	Tempest Booth.
Obtaining and applying motive-power - - -	13,207	31st July 1850	John James Greenough.
Obtaining motive-power - - - - -	13,212	5th Aug. 1850	John Gwynne.
Obtaining power - - - - -	13,220	12th Aug. 1850	Armand Nicolas Frécke.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Application of motive-power - - - - -	13,241	5th Sept. 1850	Sir John Scott Lillie.
Obtaining motive-power - - - - -	13,281	10th Oct. 1850	William Francis Fernihough.
Electro-magnetic apparatus for producing motive-power.	13,302	24th Oct. 1850	Edward Clarence Shepard.
Obtaining and applying motive-power - - -	13,319	7th Nov. 1850	{ Samuel Edwards, James Ansell. Patrick Heyns.
Obtaining and applying motive-power - - -	13,320	7th Nov. 1850	George Frederick Morrell.
Application of fluids as a motive-power - - -	13,418	19th Dec. 1850	Sebastiano Botturi.
Engine for producing motive-power by expansion of fluids or gases caused by the application of caloric.	13,425	26th Dec. 1850	Edward Dunn.
Motive-power - - - - -	13,515	17th Feb. 1851	Gustav Adolph Buchholz.
Mechanical system adapted to obtain a new moving power by means of compressed air.	13,516	18th Feb. 1851	David Ferdinand Masnata.
Compressing air and gases for obtaining motive-power.	13,543	10th March 1851	Peter Armand le Comte de Fontainemoreau.
Adaptation of machinery for producing motion -	13,577	31st March 1851	John Gwynne.
Obtaining power by use of steam or compressed air.	13,579	31st March 1851	Louis Brunier.
Obtaining and applying motive-power - - -	13,613	3rd May 1851	George James Greenough.
Obtaining motive-power - - - - -	13,671	21st June 1851	Richard Fletcher.
Obtaining motive-power by means of electro-magnetism.	13,681	3rd July 1851	George Kemp.
Obtaining and applying motive-power - - -	13,722	21st Aug. 1851	Lot Faulkner.
Obtaining and applying motive-power [ <i>fly-wheels acting by pressure on driving-shafts</i> ].	13,727	28th Aug. 1851	Edward Clarence Shepard.
Obtaining motive-power - - - - -	13,784	9th Oct. 1851	James Frederick Lackers- steen.
Obtaining and applying motive-power - - -	13,770	10th Oct. 1851	Robert John Maryon.
Machinery for obtaining motive-power from fluids -	13,779	17th Oct. 1851	Richard Roberts.
Machinery applicable for obtaining motive-power -	13,781	22nd Oct. 1851	John Ramsbottom.
Obtaining and applying motive-power - - -	13,965	12th Feb. 1852	Christian Schiele.
Obtaining and applying motive-power - - -	13,967	12th Feb. 1852	John Stephens.
A counteracting reaction motive-power engine -	14,016	8th March 1852	William Willcocks Sleigh.
Obtaining motive-power; machinery employed therein.	14,031	24th March 1852	Antoine Maurice Fardy de Montravel.
Obtaining and applying motive-power - - -	14,074	17th April 1852	William Hyatt.
Obtaining power when fluids are used - - -	14,134	22nd May 1852	Edward Thomas Bain- bridge.
Electro-magnetic apparatus for production of motive-power.	14,197	6th July 1852	Edward Clarence Shepard.
Obtaining motive-power by the agency of elec- tricity.	14,198	6th July 1852	Martyn John Roberts.
Obtaining motive-power - - - - -	14,246	31st July 1852	Henry Wickens.
Producing motive-power [ <i>by electricity</i> ]- - -	14,330	21st Oct. 1852	Edward Henry Jackson.
Obtaining motive-power;—applicable, or partly so, to measuring and transmitting aeriform bodies and fluids.	14,351	8th Dec. 1852	William Gorman.
[See also "AIR," "STEAM," "WATER."]			

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
<b>II.—Obtaining Perpetual Motion and Self-moving Power.</b>			
Engines to cause and maintain their own motion, without the aid of man, horse, wind, river, or brook.	79	9th March 1635	William Barton.
Engine with perpetual motion for raising water -	135	19th March 1662	Ralph Wayne.
Automaton or machine on a self-acting principle, which will acquire any degree of velocity desired, and also give motion to any machinery to which it can be applied.	1543	20th April 1786	Thomas Mead.
Perpetual motion, or "self-moving principle" -	1745	21st April 1790	{ Conradus Schwiers. Isaac Blydesteyn.
Machine for obtaining a self-moving power or perpetual motion.	2382	19th March 1800	William Johnson.
Machine for obtaining a self-moving power or perpetual motion.	2411	10th June 1800	William Johnson.
Machine with a perpetual motion or mechanical self-moving power.	2476	10th Feb. 1801	William Johnson.
Self-mover, or machine which can keep itself in motion.	3226	19th April 1809	William Pleasants.
Winding-up springs to produce continuous motion	7174	17th Aug. 1836	William Fothergill Cooke.
<b>III.—Obtaining Rotary, Alternating, and other Movements;—Crank.</b>			
Two circular movements performed by endless chains, useful in jackwork, clockwork, and waterworks.	407	31st July 1716	Robert Evans.
Machine or piece of mechanism, which when applied to a steam-engine or any perpendicular motion, either by means of one or more levers or any reciprocal movement, causes such motion to become circular without the medium of a water-wheel, and will be useful in grinding all sorts of grain, and in turning, grinding, rolling, stamping and hammering in mechanical operations; also adapted to the purpose of moving in any direct position any ship or vessel against the tide or wind, and where human or animal strength is inadequate to the purpose.	1213	10th March 1779	Matthew Wasbrough.
Applying the reciprocating motion of steam-engines to procure a circular motion round an axis, for working mills and other machinery.	1306	25th Oct. 1781	James Watt.
Machine producing an alternate progressing and retrograde motion, by continual rotation.	1476	9th May 1785	James Frost.
Producing a rotary motion from the action of an alternate movement in any direction, effected by a steam-engine or other machine.	1686	9th June 1789	Thomas Burges.
Regular rotary motion, the machinery of which is to be put in operation by a steam-engine without crank or cog-wheel, and to be fixed upon new invented gudgeons and brasses.	1693	30th July 1789	William Shorland.
Pneumatic engine for furnishing means of circular or retrograde motion to mills and machines.	1775	16th Oct. 1790	Joseph Hateley.
Application of certain mechanical powers for working rotatory and some other motions.	1818	7th July 1791	Francis Noble Knipe.
Producing a forward and retrograde motion, capable of being applied to mangles, pumps, calenders, rolling-presses, or other mechanism.	2174	25th March 1797	Edmund Bunting.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Movement producing a retrograde motion applicable to mangles and calenders.	2332	20th July 1799	Thomas Binns.
Compound crank for changing a circular motion into a rectilinear motion, and vice versa, applicable to various mechanical purposes.	2467	27th Jan. 1801	George Medhurst.
Communicating a direct rotary motion from one wheel to another by means of cranks; "alternate relieving cranks."	2515	18th June 1801	William Seller.
Applying the power of steam-engines for producing rotary and other motions without the interposition of a lever or beam.	2544	14th Oct. 1801	William Symington.
Producing a rotary motion applicable to useful purposes.	2730	3rd Aug. 1803	Bryan Donkin.
Machine for producing rotatory and pendulous motions.	4104	20th Feb. 1817	Richard Holden.
Rotary motion - - - - -	4110	11th March 1817	William Panter.
Method of producing rotary motion - - -	4414	4th Dec. 1819	Henry Tritton.
Combining, adjusting, and applying certain mechanical powers and modifications thereof, or an accelerating "lever-motion," applicable to many purposes [converting reciprocating into rotary power, and vice versa].	4448	15th April 1820	James Scott.
Producing a concentric and revolving excentric motion, applicable to steam-engines, water-pumps, mills, and other machinery.	4490	20th July 1820	Job Rider.
Producing rotary motion [by treadles, for impelling machinery].	4555	1st May 1821	Robert Delap.
Machinery for a new rotatory or endless lever-action	5100	19th Feb. 1825	Henry Burnett.
Machine for effecting an alternating motion between bodies revolving about a common axis; also additional machinery or apparatus for applying the same to mechanical purposes.	5228	30th July 1825	Joel Lean.
Combination of machinery, or new motion to supersede the crank in steam-engines.	5453	1st Feb. 1827	Robert Barlow.
Machinery to be used as a substitute for the crank [rack and pinion].	5569	27th Nov. 1827	Joseph Apsey.
Producing a reciprocating action by means of rotatory motion, to be applied to the working of pumps and other machinery - - - - -	5747	22nd Dec. 1828	{ William Parr. James Bluett.
Producing a reciprocating action by means of rotatory motion, for working pumps, mangles, and other machinery where reciprocating action is required.	5881	18th Jan. 1830	William Parr.
Obtaining a rotary motion by means of water, steam, gas or other vapour, applicable to giving blast to furnaces and forges, also to other purposes where a constant blast is required.	5967	5th Aug. 1830	John Street.
Steam-engines [apparatus for changing a reciprocating into a rotary power for propelling vessels].	6075	14th Feb. 1831	William Morgan.
Gear for obtaining a continuous rotary action -	7022	8th March 1836	Charles Schafhautl.
Machinery for producing rotary motion - - -	7150	13th July 1836	William Essex.
Application of certain machinery of a tappet and lever action, to produce a vertical or horizontal movement, through the medium of ropes or bands working over, under, or round pulleys.	7269	30th Dec. 1836	Hamer Stansfeld.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Producing parallel motion to the piston-rods of pumps for lamps and other purposes; also applicable to machinery in general where parallel motion is required.	7314	4th March 1837	Thomas Bradshaw Whitfield.
Machinery of a tappet and lever action to produce a vertical or horizontal movement, through the medium of ropes or bands working over, under, or round pulleys.	7471	14th Nov. 1837	Hamer Stansfeld.
Machine for obtaining rotary motion - - -	7857	8th Nov. 1838	Moses Poole.
Obtaining a rotary motion from the rectilinear motion of the piston-rod of a steam or other similar engine.	8156	18th July 1839	John George Shuttleworth.
Machine for production of rotatory motion for obtaining mechanical power.	8963	22nd May 1841	Joseph Woods.
Machinery for production of rotary motion for obtaining mechanical power - - - - }	9132	2nd Nov. 1841	{ Robert Holt. Robinson Jackson,
Producing rotary motion in engines worked by manual labour.	9422	16th July 1842	Joseph Barling.
Converting rectilinear into rotary motion, and the reverse.	9824	6th July 1843	James Booth.
Apparatus for giving quick rotatory motion to mops and such like instruments.	10,140	10th April 1844	Richard Barber.
Machinery for connecting shafts, so that when in motion they revolve at different relative velocities.	10,223	12th June 1844	Elijah Galloway.
Engine for obtaining rotatory motion - - - -	11,302	23rd July 1846	Charles Williams.
<b>IV.—Driving Machinery,—communicating Power and Motion.</b>			
Engine for turning mills for grinding corn or grain, tools, metals, bark, and other things - }	41	22nd Dec. 1627	{ William Parham. Ambrose Prewet. Charles Jacob.
Moving mills on standing water by continual motion, and without the aid of wind, weight, or horse.	50	21st Jan. 1630	David Ramsey.
Making and using an engine for turning, working, and drawing all kinds of mills or querns for grinding grain and seed, fulling and paper mills, mills for drawing up water, or other mills; also for all kind of carriages and wheel-works that are drawn, moved, or turned by wind, water, man, or beast - - - - }	114	14th Dec. 1637	{ Oliver Lloyd. Mathias Burges. Thomas Barbar.
Engine which, by reason of the easiness, quickness, and strength of its motion, will be of great benefit for blowing the bellows and working the hammers used in forging metals, and is convertible to supplying the want of wind or water to all sorts of mills, and to other uses of the like nature.	348	24th Jan. 1696	Evan Jones.
Moving mills by impellent force of fire - - - -	356	25th July 1698	Thomas Savery.
Machine and floats for raising water to turn mills, and for other purposes.	463	26th Feb. 1724	John Dickens.
Engine and slope or declining wheel, for working mills and other useful purposes.	467	20th May 1724	Francis Scobell.
Machine to work mills without aid of water or wind.	472	4th Nov. 1724	Robert Bumpstead.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Applying the centrifugal force of a body moving in a curve line to the moving of all kinds of mechanical and hydraulical engines now in use, or that may be hereafter invented.	511	16th May 1729	Francis Hanksbee.
Communicating motion, force and power obtained from fluids already in motion, to machines.	558	17th June 1737	David Stephenson.
Applying the powers of the steam-engine to the working of sugar-cane mills, and all kinds of mills and engines.	949	5th Jan. 1770	Dugald Clarke.
Propeller or machine for improving the power of mills and forges.	1255	4th May 1780	William Bache.
Machine for working mills, or any other purpose requiring like power.	1315	14th Jan. 1782	Hildebrand Morley.
Wheel-engine for giving a constant force and motion to mills, clocks, time-pieces, and other instruments or engines.	1324	15th April 1782	Hildebrand Morley.
Universal wheel or engine for working machinery requiring power and velocity.	1339	25th Oct. 1782	Charles Lander.
Reaction-machine, set in motion by fire, air, water, or any fluid;—applicable to other machines requiring a motive-power.	1420	10th April 1784	Wolfgang De Kempelin.
Machines worked or moved by fire and steam-engines.	1432	28th April 1784	James Watt.
Hydrostatic machine for working all kinds of mechanical and other engines.	1478	9th May 1785	Joseph Bramah.
Machine whereby any given number of pumps, sledge-hammers, and other subjects requiring the like powers, may be worked with facility.	1518	19th Dec. 1785	John Pennington.
Automaton or machine on a self-acting principle, which will acquire any degree of velocity desired, and also give motion to any machinery to which it can be applied.	1543	20th April 1786	Thomas Mead.
Application of water or any fluid to turn mills or machinery.	1603	15th May 1787	James Cooper.
Machine for working mills without aid of horses, fire, wind, or water.	1649	5th May 1788	John Beaumont.
New method or art of using and working pumps as well on board of ships as on land; rubbing boards used in bleaching and all other mechanical machines or engines of a similar nature, by means of a cylinder with its appurtenances.	1651	23rd May 1788	William Fulton.
Applying the power of steam, air, or water, separately or together, for giving motion to machines.	1738	24th March 1790	James Rumsey.
Machine for working mills and engines without the aid of fire, water, or wind, or in aid of all or any of those powers.	1750	8th May 1790	John Haywood.
Application of the powers of water-mills, cattle-mills, and steam-engines, either simply or combined with the pressure of the atmosphere, and with weights and springs, to the working of fly-presses or stamps.	1757	8th July 1790	Matthew Boulton.
Working engines by means of a machine to be used in engines instead of common boilers.	1808	24th May 1791	John Roger Teschemach.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Exerting, putting and continuing in motion, pneumatic, chemical or pneumato-chemical apparatus, by the decomposition, recombination, expansion and condensation (separately or conjointly) of permanently elastic fluids.	1979	6th March 1794	Thomas Mead.
Driving and working mills and machines moved by wheel-work, and increasing their power.	2024	22nd Nov. 1794	John Bannister.
Applying the use of animals to machinery - - -	2037	31st Jan. 1795	Anthony George Eckhardt.
Producing and applying more power to all machinery requiring motion and force.	2045	31st March 1795	Joseph Bramah.
Applying the power of wind or water to horizontal mills.	2200	31st Oct. 1797	Robert Beatson.
Apparatus for the working of machines - - -	2274	27th Nov. 1798	Mark Noble.
Applying power to the working of mills and other machinery where power is required.	2286	5th Jan. 1799	John Kent.
Applying additional power to machinery - - -	2334	23rd July 1799	James Lambie.
Machine for driving machinery - - - -	2372	4th Feb. 1800	Samuel Miller.
Moving machinery by the power of a reciprocating steam-engine applied to a crank or rotative axis.	2378	28th Feb. 1800	Phineas Crowther.
Method of giving an independent moving power to all machines by means of hydraulic engines, and also of constructing and employing several of the parts of machines, such as wheels, pistons, and apparatus for reducing friction, upon new principles.	2472	5th Feb. 1801	Joseph Gaston John Baptiste Count de Thiville.
Method of working machinery - - - -	2520	23rd June 1801	Thomas Witherby.
Engine possessing power to work engines on water or land, and for other purposes.	2530	31st July 1801	Mark Browne.
Machine for working mills - - - -	2610	13th April 1802	{ John Harriott. Thomas Strode.
Applying the repelling force of nature to give impulse to any body in motion.	2689	16th March 1803	Samuel Miller.
Engine producing a force by the impetus which the parts of a fluid body have to an equal altitude, applicable to the working of all sorts of machinery.	2805	19th Dec. 1804	Edward Steers.
Working machinery by steam - - - -	2864	2nd July 1805	James Boaz.
Application of power employed mechanically, especially as adapted to the use of cranks and fly-wheels, or other contrivances producing similar effects.	2908	12th Feb. 1806	William Sampson.
Working machinery by steam - - - -	2937	6th June 1806	Ralph Dodd.
Giving motion to hammers, stampers, knives, shears, and other things, without the application of wheel, pinion, or any rotative motion, by powers in common use.	2939	6th June 1806	William Deverell.
Rotary motion or engine to communicate power to machines.	2943	19th June 1806	William Lester.
Combining wheel-work so as to produce any velocity between the weight and first mover - - - }	2948	24th July 1806	{ Bryan Donkin. Henry Maudslay.
Method of applying friction-boxes either with or without a perpetual screw, spindle, and cog-wheel, to extend and facilitate the power of engines, cranes, capstans, and other machines for raising great weights, also to the steering-wheels of vessels.	3022	20th March 1807	John Day.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Communicating motion to engines, pumps and machinery, and to mechanical operations in general; forming and using a circular or a to-and-fro motion; also working mills, machinery, ploughs, tools, and carriages.	3106	4th Feb. 1808	John Dumbell.
Apparatus for driving machinery - - - -	3161	20th Aug. 1808	Alexander Tilloch.
Combining and disposing machinery, and applying the power of wind, water, and cattle thereto, so as to effect improvements on mills.	3264	26th Sept. 1809	William Watts.
Apparatus for giving motion to machinery;—partly applicable to hydraulic and pneumatic purposes.	3384	1st Oct. 1810	Marc Isambard Brunel.
Wheels which when combined will constitute a moving power of great force, and being applied to machinery worked by steam, wind, water, or other power, will greatly increase such power, and may also be used in machinery instead of wheels and pinions as now used, producing less friction and greater velocity, also a saving of time and of the moving power.	3458	15th June 1811	Timothy Sheldrake.
Applying any moving power to machinery; increasing such power; rendering machinery more susceptible of a multiplicity of power.	3463	3rd July 1811	Robert Dawson.
Applying the expansive force or pressure of atmospheric air, condensed air, or steam, in or upon a wheel, so as to be the first mover of machinery.	3484	9th Sept. 1811	John Jones.
Giving motion to machinery - - - -	3530	28th Jan. 1812	Philip Chell.
Communicating motion from one axle to another placed at any angle, without the aid of universal joints.	3591	5th Aug. 1812	John Rapson.
Working machinery by manual powers - - -	3625	19th Dec. 1812	Thomas Rogers.
Machine for giving rotary motion to machinery -	3636	15th Jan. 1813	John Shorter Morris.
Constructing and working machines for turning machinery;—applicable to other purposes.	3681	13th April 1813	John Rangeley.
Working or giving motion to mill-work and machinery.	3686	1st May 1813	Samuel Evans.
Means which may be applied to the moving of water-wheels, windmills, and the impelling of other machinery.	3741	18th Oct. 1813	Robertson Buchanan.
Apparatus for acting upon machinery - - -	3810	23rd May 1814	William Moulton.
Driving machinery by means of steam-engines -	3917	18th June 1814	Thomas Tindall.
Producing or communicating motion in or unto bodies wholly or in part surrounded by water or air, by means of the reaction of apparatus on such water or air, or upon both of them.	3821	16th July 1814	James Dawson.
Application of water to move an horizontal wheel about its axis, with more power than if applied in any other position.	3972	22nd Dec. 1815	William Adamson.
Apparatus for continuing the motion of machinery -	3961	6th Feb. 1816	Joseph Barker.
Applying power and motion to mechanical apparatus - - - - -	3994	14th March 1816	{ William West. Daniel West.
Producing or communicating motion in or unto bodies wholly or in part surrounded by water or air, by the motion of suitable apparatus upon the said water or air, or upon both of them.	3996	14th March 1816	James Dawson.
Method of acting upon machinery - - -	4057	14th Aug. 1816	William Moulton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Machine or apparatus for turning machinery as mill-wheels and other revolving power.	4071	1st Nov. 1816	Benjamin Smythe.
Engine capable of being applied to the moving of machinery.	4081	16th Nov. 1816	Robert Stirling.
Apparatus for acting upon machinery - - -	4084	19th Nov. 1816	Joseph Barker.
Improvements applicable to driving machinery -	4179	25th Nov. 1817	Joseph Claude Niepee.
Working machinery - - - - -	4208	23rd Jan. 1818	Thomas Calderbank.
Working machinery for finishing stockings, by the application of known powers.	4261	19th May 1818	Thomas Brown Milnes.
Machinery to communicate power and motion to other machinery requiring reciprocating or alternating motion - - - - -	4273	18th June 1818	{ Robert Winch. Richard Holden.
Combination of machinery to increase power, and to be worked by manual labour or other suitable means [ <i>propelling by machinery on the lazy-tongs principle</i> ].	4349	13th March 1819	William Neale.
Application of various gases or vapours to certain useful purposes [ <i>to impel machinery</i> ] - - -	4405	1st Nov. 1819	{ Edward Neave. Josiah Neave. Israel Gundry.
Construction of an engine wrought by steam or other elastic fluid, for driving mills and for other purposes.	4413	23rd Nov. 1819	George Lilley.
Communicating power to machinery, by water, spirits of wine, quicksilver, oil, or fluids;—applicable to other purposes.	4415	4th Dec. 1819	James Dickson.
Water-wheels applicable to mills and navigable bodies; other improvements, also applicable to mills and other navigable bodies [ <i>for impelling machinery</i> ].	4416	4th Dec. 1819	Samuel Lambert.
Combination of mechanical powers whereby the weight and muscular force of men may be employed to actuate machinery, for raising water, and for other purposes [ <i>levers, cords, and pulleys</i> ].	4532	27th Jan. 1821	Alphonso Doxat.
Machinery for imparting motion, and to be worked by steam and water, without cylinder or piston, also with less loss of power than occurs in working steam-engines now in use.	4538	10th Feb. 1821	Thomas Masterman.
Impelling machinery without aid of steam, water, wind, air, or fire [ <i>by a revolving series of levers</i> ].	4633	22nd Dec. 1821	George Linton.
Impelling machinery [ <i>by a water-wheel</i> ] - - -	4761	18th March 1823	{ George Emanuel Harpur. Benjamin Baylis.
Engine for putting machinery in motion by forming a vacuum.	4874	4th Dec. 1823	Samuel Brown.
Construction of machinery to aid in giving motion to other machinery, by converting the friction into a propelling power.	4904	19th Feb. 1824	The Rev. Moses Isaacs.
Apparatus for giving a new motion to "mules" and "billies" [ <i>machines used in spinning</i> ] -	5218	16th July 1825	{ William Hirst. Joseph Carter.
Engine for putting machinery in motion by forming a vacuum.	5350	25th April 1826	Samuel Brown.
Engine for communicating power, to answer the purposes of a steam-engine.	5393	1st Aug. 1826	Adolpho Eugene Count de Rosen.
Preparing explosive mixtures, and employing them as a moving power for machinery.	5402	12th Aug. 1826	Erskine Hazard.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Engine for moving mills and machinery of every kind.	5448	15th Jan. 1827	William Wilmot Hall.
Combinations of machinery for generating and communicating power and motion [ <i>on the lazy-tongs principle</i> ].	5591	19th Dec. 1827	Thomas Stanhope Holland.
Application of elastic and dense fluids to the propelling of machinery of various descriptions.	5736	15th Dec. 1828	Richard Williams.
Machinery for giving motion to mills and other machinery.	5793	26th May 1829	William Poole.
Communicating power and motion to fixed machinery, carriages, and other locomotive machines, by compressed air.	5797	1st June 1829	William Mann.
Methods of applying animal power to machinery [ <i>moving carriages on railways by mechanism actuated by horse-power, the horse being placed in one of the carriages</i> ].	5840	9th Sept. 1829	Thomas Shaw Brandreth.
Apparatus for communicating power and motion -	5844	9th Sept. 1829	Robert Torrens.
Machines for propelling machines by steam - -	5857	15th Oct. 1829	William Church.
Machine or hydraulic engine for applying the power or pressure of steam and other elastic fluids to the working of machinery, and other uses requiring power - - - -	5882	21st Jan. 1830	{ Edward Dakeyne. James Dakeyne.
Engine for communicating power for mechanical purposes.	5961	24th July 1830	John Ericsson.
Propelling and giving motion to machinery - -	5984	18th Aug. 1830	Major-General Joseph Gubbins.
Improvements applicable to working machinery -	6027	4th Nov. 1830	{ Thomas Bramley. Robert Parker.
Apparatus applicable to driving machinery by the agency of steam.	6041	29th Nov. 1830	William Church.
Machinery for giving motion to mills and other machinery.	6150	10th Aug. 1831	Alexander Cochrane.
Engine for propelling or actuating machinery on land.	6172	28th Sept. 1831	Miles Berry.
Engine for communicating power for mechanical purposes.	6221	9th Feb. 1832	John Ericsson.
Machine or motive-power for giving motion to machinery of different descriptions; " <i>Hainsselin's motive-power</i> ."	6290	26th July 1832	Pierre Nicholas Hainsselin.
Actuating machinery for making bobbin-net - -	6393	11th Feb. 1833	William Crofts.
Constructing apparatus to be propelled by a certain motive principle.	6585	29th March 1834	John Cooper Douglas.
Engines for exerting power for driving machinery -	7002	12th Feb. 1836	Andrew Smith.
Applying a known power to and in giving motion to certain machinery.	7055	9th May 1836	John Hague.
Applying power to machinery for sawing timber -	7133	24th June 1836	John M'Dowall.
Nipping lever for causing the rotation of wheels, shafts, or cylinders.	7312	28th Feb. 1837	John Robinson.
Applying steam-power for agricultural purposes -	7458	4th Nov. 1837	John Upton.
Communicating rotary motion from steam or other power where change of speed and power is required.	7671	5th June 1838	Samuel Parlour.
Applying steam-power to the periphery of the movement-wheel for propelling machinery.	7780	30th Aug. 1838	Lawrence Heyworth.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Engines useful as propellers of machinery - -	7813	13th Sept. 1838	Sir Hugh Pigot.
Machinery for raising water for propelling machinery.	7821	27th Sept. 1838	John Hughes Rees.
Machinery for propelling machinery - - -	7884	1st Dec. 1838	Peter Taylor.
Machinery for transmitting power, to increase effect without loss of speed.	8022	5th April 1839	Jose Francisco Carlos D'Artenn.
Propelling machinery - - - - -	8150	13th July 1839	William Woodley.
Application of elastic fluids to the working of machinery.	8184	1st Aug. 1839	Sir John Scott Lillie.
Improvements applicable to machinery for communicating motion between different portions of machinery - - - - -	8187	16th Aug. 1839	{ William Bridges Adams. John Buchanan.
Applying motive-power to the impelling of machinery;—also applicable to several other useful purposes.	8207	26th Aug. 1839	Henry Pinkus.
Propulsion of carriages through fields, for agricultural purposes.	8331	1st Jan. 1840	John Leo Nicolas.
Applying power to propelling machinery - -	8410	3rd March 1840	John Rangeley.
Applying motive-power to the impelling of machinery.	8644	24th Sept. 1840	Henry Pinkus.
Machinery for transmitting power to other machinery.	8648	1st Oct. 1840	Frederick Mackelcan.
Construction of machinery for communicating mechanical power.	8654	7th Oct. 1840	James Fitt.
Communicating power to propellers of steam-vessels.	8671	2nd Nov. 1840	Henry Wimshurst.
Machinery for driving machinery - - - -	9765	10th June 1843	Ernest Lentz.
Machinery for communicating manual power to work machinery for propelling vessels.	10,010	13th Jan. 1844	Anthony Movillon De Glimes.
Construction of engines for communicating motive-power [by manual or animal labour].	10,028	30th Jan. 1844	Ezra Washington Burrows
Transmitting power in working machinery where endless belts, chains, or straps are used.	10,057	17th Feb. 1844	John Kibble.
Applying power for drawing or working ploughs and other agricultural implements and carriages used for agricultural purposes - - - -	10,135	2nd April 1844	{ William Stace. Philip Vallance.
Adaptation of horse-power to thrashing-machinery.	10,172	30th April 1844	William Colborne Cambridge.
Applying power for working thrashing-machines, mills, chaff-cutters, and other machines.	10,314	12th Sept. 1844	James Vibart.
Obtaining and applying motive-power to impelling machinery.	10,447	27th Dec. 1844	Henry Pinkus.
Machinery for revolving windlasses, barrels, spindles, shafts.	10,495	25th Jan. 1845	George Henry Taunton.
Propelling agricultural machines - - - -	10,578	27th March 1845	{ John Baptiste Simeon Teissier. Antoine Hyppolyte Triat.
Improvements applicable to driving machinery -	10,595	7th April 1845	Thomas Metcalfe.
Application of motive-power for locomotive and other purposes.	10,702	3rd June 1845	John Lionel Hood.
Propelling machinery - - - - -	10,706	3rd June 1845	Thomas Lawes.
Machinery for propelling machinery - - -	11,044	20th Jan. 1846	Peter Taylor.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Applying motive-power to the driving of machinery.	11,273	29th June 1846	Sir James Caleb Anderson.
Machinery for obtaining and applying, accelerating and retarding, motive-power [ <i>driving chaff-cutters</i> ] - - - - -	11,442	5th Nov. 1846	{ Frederick Herbert Ma- berly. Thomas Branwhite. Dennis Lusher.
Machinery for propelling machinery and fluids -	11,506	21st Dec. 1846	Moses Poole.
Applying power in giving motion to machinery -	11,821	29th July 1847	James Morison.
Application of steam-power to turn certain mills or machines with continuous rotatory motion.	11,822	29th July 1847	John Hastie.
Communicating motive-power for working signals and breaks on railways; also communicating motive-power by the agency of voltaic electricity.	11,849	2nd Sept. 1847	William Sykes Ward.
Giving motion to agricultural and other machinery	11,879	30th Sept. 1847	Robert Hawkins Nicholls.
Improvements applicable to working or driving machinery.	11,918	21st Oct. 1847	James Neville.
Machinery for exerting motive-power - - -	12,042	25th Jan. 1848	Henry Hornblower.
Steam-boilers, engines and other apparatus for driving thrashing-machines, which apparatus is also applicable to driving other machinery.	12,080	8th March 1848	William Exall.
Engines and machinery for driving blowing-machines.	12,087	8th March 1848	George Lloyd.
Propelling and machinery employed therein [ <i>driving machinery</i> ].	12,147	4th May 1848	Felicité Raison Selligue.
Improvements partly applicable to moving machinery - - - - -	12,236	10th Aug. 1848	{ William Thomas Henley. David George Foster.
Propulsion of machinery - - - - -	12,674	26th June 1849	James Leadbetter.
Communicating and regulating the power for driving machinery employed in manufacturing, dyeing, printing and finishing textile fabrics, and apparatus for the purpose.	12,675	26th June 1849	James Nasmyth.
Communicating steam or other power for driving machinery.	12,708	18th July 1849	Evan Leigh.
Apparatus for giving motion to machinery - -	12,760	6th Sept. 1849	Alexander Haigh.
Apparatus for working machinery - - - -	12,783	20th Sept. 1849	William Edward Newton.
Machinery for the production of and for ornamenting fabrics and tissues generally;—partly applicable to the regulation of other machinery, and to other similar purposes [ <i>employing a self-adjusting power-lever; regulating movements of machinery by Jacquard apparatus</i> ].	12,980	27th Feb. 1850	Mathew Cochran.
Applying steam-power to give motion to thrashing, grinding, and cutting machinery - - - -	13,065	30th April 1850	{ Charles May. Robert Leggett.
Applying steam in propelling stationary machinery -	13,141	19th June 1850	Ethan Baldwin.
Applying steam-power to agricultural machinery -	13,168	4th July 1850	Weston Tuxford.
Applying motive-power to giving motion to machinery.	13,212	5th Aug. 1850	John Gwynne.
Machinery for giving rotary motion to mills, thrashing-machines, and any other machine requiring rotary motion to be communicated by any horse or other animal.	13,214	6th Aug. 1850	William Crosskill.
Application of magnetic power for transmitting motion.	13,269	3rd Oct. 1850	Jean Pierre Paul Amberger.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Engines for giving motion to machinery for preparing cotton and other textile materials for spinning, which engines are applicable in other cases where motive-power is required -	13,408	12th Dec. 1850	{ John Mason. George Collier.
Machinery for giving motion to agricultural and other machinery.	13,600	24th April 1851	Robert Hawkins Nicholl.
Machinery for communicating motion from steam-engines or other motive-power.	13,715	14th Aug. 1851	Jonathan Grindrod.
Engines for applying the power of steam or other fluids for impelling purposes; manufacture of appliances for transmitting motion.	13,738	4th Sept. 1851	John Wallace Duncan.
Multiplying motion, applicable to steam-engines, saw-mills, and other machinery in which an increase of velocity is required.	13,942	31st Jan. 1852	Charles Cowper.
Application of power to machinery for cutting wood and other substances;—partly applicable to the transmission of power generally. [See also "AIR," "STEAM," "WATER."]	14,026	20th March 1852	John M'Dowall.
<b>V.—Land Propulsion,—propelling Railway and other Carriages.</b>			
Engine placed in coaches, chariots, waggons, &c., to facilitate their motion.	153	3rd July 1667	Sir Ellis Leighton.
Engines moved by wind; useful for drawing several machines and carriages, instead of horses.	315	3rd March 1693	John Hadley.
Machines made of wood and metal and moved by power, for the carriage of persons and goods, and for accelerating boats, barges, and other vessels.	933	13th July 1769	Francis Moore.
Machine for driving waggons without aid of horses, fire, wind, or water.	1649	5th May 1788	John Beaumont.
Driving carriages without the use of horses - -	2431	2nd Aug. 1800	George Medhurst.
Driving carriages by means of steam-engines - -	2599	24th March 1802	{ Richard Trevithick. Andrew Vivian.
Moving carriages by means of a rotary or reciprocating motion.	3106	4th Feb. 1808	John Dunbell.
Mechanical means of conveying carriages laden with coals, minerals, and other things.	3666	13th March 1813	William Hedley.
Constructing and working machines for drawing carriages on railways;—applicable to other purposes.	3581	13th April 1813	John Rangeley.
Method and machinery for drawing or propelling carriages on roads or railways, by means of certain levers or legs acting alternately or conjointly upon such roads or upon machinery attached thereto.	3700	22nd May 1813	William Brunton.
Driving carriages by steam-engines - - -	3817	18th June 1814	Thomas Tindall.
Easing the draught and accelerating the motion of carriages travelling on land.	3827	26th July 1814	William Doncaster.
Philosophical, chemical, or mechanical means for propelling carriages or other conveyances by land - - - - -	3909	25th April 1815	{ Samuel Pauly. Durs Egg.
Method of making wheeled carriages move with or without the help of animals; which method may be applied to other purposes.	3927	14th June 1815	William Pope.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Constructing and working engines or machines for drawing carriages on railways, applicable to all purposes where mechanical power is required; "hydro-pneumatic engine."	4021	4th May 1816	John Rangeley.
Removing friction and facilitating rotatory motion in wheel carriages.	4110	11th March 1817	William Panter.
Machinery to be attached to carriages for giving them motion by manual labour [ <i>internal machinery worked by the hands and feet of the passengers</i> ].	4398	27th Sept. 1819	John Baynes.
Propelling light carriages on land - - - -	4572	23rd July 1821	Frederick Mighells Van Heythuyson.
Facilitating conveyance of carriages along iron and wood railways, tramways, and other roads.	4602	24th Oct. 1821	Benjamin Thompson.
Construction of machinery for propelling carriages, by converting the friction into a propelling power.	4904	19th Feb. 1824	Rev. Moses Isaacs.
Construction of railroads and tramroads;—applicable to other purposes [ <i>propelling carriages by a stationary engine</i> ].	4913	28th Feb. 1824	William James.
Railways [ <i>driving carriages</i> ] - - - -	5117	5th March 1825	William Henry James.
Apparatus for propelling carriages on common roads or on railways.	5170	14th May 1825	Goldsworthy Gurney.
Propelling or moving carriages, on turnpike, rail, or other roads.	5310	14th Dec. 1825	Robert Addams.
Machinery for propelling locomotive-carriages -	5405	22nd Aug. 1826	{ Timothy Burstall. John Hall.
Application of a power to draw cars or other carriages, and to other purposes [ <i>the pressure of the wind against a kite attached to the carriage</i> ] -	5420	18th Oct. 1826	{ George Viney. George Pocock.
Engines to propel carriages by steam or other suitable power.	5438	20th Dec. 1826	Frederick Andrews.
Engine for propelling carriages - - - -	5448	15th Jan. 1827	William Wilmot Hall.
Combinations of machinery applicable to propelling carriages and other locomotive machines.	5591	19th Dec. 1827	Thomas Stanhope Holland.
Apparatus or machinery for propelling locomotive carriages;—applicable to other purposes.	5592	21st Dec. 1827	William Harland.
Propelling carriages by steam or other power - -	5628	20th March 1828	Nathan Gough.
Machinery for propelling, drawing, or moving wheel carriages.	5638	15th April 1828	Lemuel Wellman Wrigley.
Propelling locomotive carriages and machines - -	5644	29th April 1828	Charles Carpenter Bompas.
Propelling or moving carriages and all other vehicles on roads - - - - -	5694	4th Sept. 1828	{ John Seaward. Samuel Seaward.
Propelling carriages on railroads by machinery, for the purpose of conveying passengers, letters, intelligence, packets, and other goods with great velocity.	5790	21st May 1829	Maxwell Dick.
Communicating power and motion to carriages and other locomotive-machines by the application of compressed air.	5797	1st June 1829	William Mann.
Apparatus for propelling carriages and locomotive bodies.	5808	4th July 1829	Robert Crabtree.
Machinery for propelling and guiding carriages -	5853	30th Sept. 1829	John Moore.
Facilitating the draught or propulsion, or both, of wheeled carriages.	5906	27th Feb. 1830	William Grisenthwaite.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Machinery for propelling carriages - - -	5965	5th Aug. 1830	John Rutaven.
Machinery, and its application to steam-engines for propelling and drawing carriages on turnpike and other roads and railways - - -	6008	6th Oct. 1830	{ John Heaton. William Heaton. George Heaton. Reuben Heaton.
Apparatus for propelling carriages and for other purposes, by the power of steam.	6052	13th Dec. 1830	Richard Witty.
Machinery for propelling locomotive-carriages -	6090	4th March 1831	{ David Napier. James Napier. William Napier.
Machine to be worked by steam for moving carriages either on the road or tramways.	6120	24th May 1831	Samuel Hobday.
Machinery for propelling or moving locomotive-carriages.	6150	10th Aug. 1831	Alexander Cochrane.
Machinery for propelling carriages - - -	6161	16th Sept. 1831	George Holworthy Palmer.
Mechanism by means of which the elastic force of steam is made to give impulse to and regulate the speed of locomotive-carriages.	6258	13th April 1832	Richard Roberts.
Machinery for propelling steam-carriages;—partly applicable to other purposes.	6297	15th Aug. 1832	William Henry James.
Propelling carriages - - - - -	6351	20th Dec. 1832	Joseph Saxton.
Engines to be worked by steam or vapour, for propelling carriages on land.	6390	21st Feb. 1833	Alexander Gordon.
Apparatus for equalizing draught, chiefly applicable to drawing carriages on land.	6481	7th Oct. 1833	William Tanner Young.
Communicating and transmitting or extending motive-power, by means of which carriages or waggons may be propelled on railways or common roads.	6570	1st March 1834	Henry Pinkus.
Machinery for propelling steam-carriages;—applicable to other purposes.	6719	20th Nov. 1834	Robert Whiteside.
Method or combination of a method and apparatus for communicating and transmitting or extending motive-power, by means whereof carriages or waggons may be propelled on railways or roads.	6885	17th Aug. 1835	Henry Pinkus.
Machinery and apparatus applicable to purposes of locomotion [ <i>railway propulsion</i> ].	6923	5th Nov. 1835	Thomas Earl of Dundonald.
Machinery and arrangements for propelling carriages and other vehicles on railroads and common roads.	6984	19th Jan. 1836	Charles Harsleben.
Propelling or moving carriages on land - - -	7338	3rd Dec. 1836	David Nimes Carvalho.
Apparatus for propelling carriages on common roads or railways;—partly applicable to other purposes.	7351	25th April 1837	Sir George Cayley.
Propulsion on railways - - - - -	7352	25th April 1837	{ James Pim. Thomas Fleming Bergin.
Propelling carriages - - - - -	7370	11th May 1837	James Boydell, junior.
Machinery or apparatus applicable for propelling carriages, machines, and other useful purposes.	7729	11th July 1838	Louis Cyprien Callett.
Machinery or apparatus applicable to locomotion on railroads, and to steam navigation - - }	7730	11th July 1838	{ Henry Van Wart. Samuel Aspinwall Goddard.
Applying steam-power directly to the periphery of the movement-wheel for purposes of locomotion on land.	7780	30th Aug. 1838	Laurence Heyworth.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Machinery applicable to the raising of water for propelling carriages.	7821	27th Sept. 1838	John Hughes Rees.
Machinery for propelling carriages - - -	7884	1st Dec. 1838	Peter Taylor.
Applying horse-power to carriages on ordinary roads	7906	17th Dec. 1838	Crofton William Moat.
Construction of a leg and foot for propelling carriages on rail or common roads; combination or arrangement of machinery for locomotive carriages, rendering the weight of the load partly applicable as the moving power.	7993	6th March 1839	John Clark.
Propelling carriages - - - - -	8150	13th July 1839	William Woodley.
Propelling carriages - - - - -	8300	4th Dec. 1839	Christopher Nickels.
Propelling carriages on railways, common roads, or through fields for agricultural purposes.	8331	1st Jan. 1840	John Leo Nicolas.
Applying steam-power to carriages on ordinary roads.	8372	5th Feb. 1840	Crofton William Moat.
Means of applying power to propelling carriages and machinery.	8410	3rd March 1840	John Rangeley.
Railway and other propulsion - - - -	8539	9th June 1840	John George Shuttleworth.
Propelling carriages by atmospheric pressure only, without the aid of other power.	8638	22nd Sept. 1840	Thomas Paine.
Applying motive-power to the impelling of carriages on railways, common roads or ways, and through fields.	8644	24th Sept. 1840	Henry Pinkus.
Propelling railway carriages - - - - -	8669	2nd Nov. 1840	Elijah Galloway.
Propelling carriages on railways - - - -	8840	8th Feb. 1841	Joseph Scott.
Propelling machinery [ <i>propelling on railways and other ways</i> ].	8976	5th June 1841	William Hannis Taylor.
Propelling carriages on roads and railways - -	8977	5th June 1841	Joseph Gibbs.
Drawing and moving carriages or other machines along inclined planes, railways, and other roads.	8994	19th June 1841	Sir Samuel Brown.
Propelling locomotive-carriages on railroads and common roads, by power obtained by machinery unconnected with the carriages to be propelled; "The united stationary and locomotive systems."	9038	28th July 1841	Anthony Bernhard Von Ruthen.
Machinery suitable for applying power to communicate locomotion to bodies requiring to be moved on land.	9143	9th Nov. 1841	Henry Davies.
Applying such power as is or may be used for propelling vessels or carriages to produce locomotion thereof.	9400	21st June 1842	Thomas Gaunt.
Propelling carriages on railroads - - - -	9421	16th July 1842	Robert Benton.
Propelling railway and other carriages - - -	9473	16th Sept. 1842	William Henry James.
Machinery for applying steam-power to propelling -	9516	8th Nov. 1842	Henrik Zander.
Steam-propelling machinery - - - - -	9551	8th Dec. 1842	James Brown.
Apparatus for propelling railway carriages - -	9702	20th April 1843	John George Bodmer.
Applying motive-power in combination with apparatus and machinery to certain purposes in propelling, and applicable to railways, ships and other vessels.	9835	13th July 1843	Henry Pinkus.
Applying motive-power for propelling on railways -	10,045	8th Feb. 1844	William Edward Newton.
Impelling wheeled carriages - - - - -	10,161	27th April 1844	Isaiah Davies.
Propelling carriages on railroads and common roads	10,180	17th May 1844	James Pilbrow.
Propelling - - - - -	10,212	4th June 1844	William Henry Phillips.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Locomotion applicable to railroad and other ways -	10,232	21st June 1844	Pierre Armand le Comte de Fontainemoreau.
Machinery for impelling carriages on railways and tramways by means of stationary engines; apparatus connected with the carriages to run on the same.	10,394	14th Nov. 1844	Isaac Farrell.
Propelling carriages - - - - -	10,578	27th March 1845	{ John Baptiste Simeon Teissier. Antoine Hyppolyte Triat.
Propelling carriages - - - - -	10,595	7th April 1845	Thomas Metcalfe.
Propelling railway carriages - - - - -	10,606	10th April 1845	Elijah Galloway.
Propelling carriages - - - - -	10,660	8th May 1845	{ George Duckett. Barber Beaumont.
Propelling railway carriages - - - - -	10,662	10th May 1845	{ William Prosser. Jacob Brett.
Application of motive-power for locomotive and other purposes.	10,702	3rd June 1845	John Lionel Hood.
Propelling carriages on rail and other roads - -	10,706	3rd June 1845	Thomas Lawes.
Construction of parts of apparatus used in propelling carriages by the atmosphere; propelling carriages by atmospheric pressure - - -	10,724	23rd June 1845	{ Robert Griffiths. George Hinton Bovill. George Kennett.
Propelling carriages - - - - -	10,753	3rd July 1845	William Newton.
Propelling carriages on railways and other roads and ways.	10,758	8th July 1845	Jacob Brett.
Propelling carriages on railways - - - - -	10,761	12th July 1845	John Samuel Templeton.
Apparatus for propelling carriages on roads by atmospheric pressure.	10,770	12th July 1845	Joseph Malcomson.
Atmospheric propulsion, and manufacture of tubes for atmospheric railway and other purposes.	10,779	21st July 1845	Jacob Brett.
Propelling land carriages - - - - -	10,789	29th July 1845	George Beadon.
Conveyance and propulsion of locomotive-engines and other carriages on rail and other roads.	10,790	29th July 1845	Sir Samuel Brown.
Moving locomotive-engines on inclined planes of railways.	10,792	30th July 1845	Ezra Coleman.
Atmospheric propulsion applicable to land carriage -	10,841	2nd Oct. 1845	John Reed Hill.
Propelling [ <i>propelling railway and other carriages</i> ] -	10,857	9th Oct. 1845	John Lake.
Atmospheric propulsion and apparatus connected therewith.	10,981	5th Dec. 1845	Henry Bessemer.
Propelling [ <i>atmospheric propulsion</i> ] - - - -	11,009	20th Dec. 1845	{ William Hannis Taylor. Francis Roubiliac Condor.
Means of propelling and carrying on railways - -	11,024	3rd Jan. 1846	Thomas Swinburne.
Machinery for propelling carriages - - - - -	11,044	20th Jan. 1846	Peter Taylor.
Propelling on land - - - - -	11,069	31st Jan. 1846	James Pilbrow.
Propelling carriages - - - - -	11,072	3rd Feb. 1846	Samuel Brown.
Propelling carriages on railways - - - - -	11,114	27th Feb. 1846	John Samuel Templeton.
Propelling carriages on railways - - - - -	11,124	11th March 1846	William Nairne.
Applying motive-power for propelling carriages -	11,273	29th June 1846	Sir James Caleb Anderson.
Giving motion to locomotive-carriages - - -	11,274	29th June 1846	Thomas Parkin.
Apparatus for propelling, exhausting, and compressing air and aeriform bodies [ <i>propelling carriages, agricultural implements, and vehicles</i> ].	11,303	23rd July 1846	Peter Claussen.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Propelling carriages on railways - - - -	11,387	1st Oct. 1846	{ Alfred Robert Cunningham. Joseph Threlfall Carter.
Propelling carriages on railways - - - -	11,472	2nd Dec. 1846	William Johnson.
Moving carriages up inclines - - - -	11,537	19th Jan. 1847	John M'Intosh.
Propelling on land - - - -	11,695	6th May 1847	Johann Gottlob Seyrig.
Propelling carriages - - - -	11,763	22nd June 1847	John Mackintosh.
Propelling on land - - - -	11,813	23rd July 1847	Henry Samuel Rayner.
Applying power in propelling carriages - - -	11,821	29th July 1847	James Morison.
Propelling carriages on common roads - - -	11,841	19th Aug. 1847	Archibald Farries.
Obtaining and applying motive-power; machinery and engines employed therein [ <i>for propelling carriages</i> ].	12,088	8th March 1848	Joseph Maudslay.
Propelling upon railways; machinery for the purpose.	12,108	4th April 1848	James Pilbrow.
Accelerating menatrite locomotion in transport machines acting by wheels on land.	12,163	13th June 1848	John Miller.
Propelling by atmospheric pressure [ <i>propelling carriages on railways</i> ].	12,530	14th March 1849	William Allen Bragg.
Applying steam for propelling locomotives - -	13,141	19th June 1850	Ethan Baldwin.
Application of magnetic power for moving carriages	13,260	3rd Oct. 1850	Jean Pierre Paul Amberger.
Propelling carriages - - - -	13,300	2nd Nov. 1850	Pierre Antoine de la Barre de Nantuil.
Machinery for propelling on land - - - -	13,805	6th Nov. 1851	William Thomas.
Construction of machinery for supplying rotatory motion to carriages, vessels, and water-mills.	14,242	29th July 1852	Frederick Winter.
Propelling - - - -	14,323	14th Oct. 1852	Thomas Carter.
[See also "AIR," "STEAM," "WATER."] -----			
<b>VI.—Marine Propulsion,—propelling Ships and other Vessels.</b>			
Engines and other inventions to make boats on the water move in calms as swiftly as full-sailed boats in great winds, and with more security in storms - - - -	6	17th Jan. 1618	{ David Ramsey. Thomas Wildgosse.
Making boats, ships, and barges move against wind and tide.	50	21st Jan. 1630	David Ramsey.
Instrument, or the "wind's majesty," for a more speedy passage of ships or other vessels becalmed upon the sea or rivers.	59	20th July 1632	Thomas Grent.
Drawing and working barges or other vessels on rivers, without the aid of horses - - - -	109	6th Sept. 1637	{ Francis Lin. Henry Yorke. Francis Myles.
Propelling boats, barges, lighters, and other vessels, upon navigable rivers or the sea.	126	14th March 1640	Edward Ford.
Invention to make a boat move to any part of the compass, whichever way the stream runs or the wind blows, the motive-power at the same time being obtained from such stream or wind, a steersman being the only requisite, the force of the stream or wind also being made to perform the work of a water-mill or windmill while the boat stays to be loaded or unloaded.	131	8th Feb. 1661	The Right Honourable Edward Marquis of Worcester.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Making ships sail without aid of wind or tide -	139	— Aug. 1662	{ Thomas Toogood. James Hayes.
Machine for making a ship sail against wind and tide.	200	28th Feb. 1692	Anthony Duvivien.
Mill-work for rowing ships - - - -	347	10th Jan. 1696	Thomas Savery.
Machine and floats to move ships, and for other purposes.	463	26th Feb. 1724	John Dickens.
Rowing engine to force ships against wind and tide.	468	20th May 1724	Richard Dunning.
Engine for rowing ships ahead with oars against wind and tide, or stemming a current; carrying ships of war in or out of harbours or line of battle; useful for fire-ships or bomb-vessels, for approaching or leaving ships becalmed at sea or having lost their masts; also useful for packets and cruisers, and for suppressing pirates and smugglers.	475	11th Feb. 1725	Thomas Smith.
Application of certain powers to give motion to engines, whereby a ship may be navigated in a calm.	513	7th Aug. 1729	John Allen.
Machine for carrying ships and vessels into and out of any harbour or river against wind and tide or in a calm.	556	21st Dec. 1736	Jonathan Hulls.
Machines made of wood or metal, and worked by fire, water, or air, for the purpose of moving bodies on land or water.	921	14th March 1769	Francis Moore.
Machines made of wood and metal, and moved by power, for the carriage of persons and goods, and for accelerating boats, barges, and other vessels.	933	13th July 1769	Francis Moore.
Machine for adding velocity to ships, by sculls placed in the stern.	1108	22nd Nov. 1775	Samuel Miller.
Machine which when applied to a steam-engine or any perpendicular motion, either by means of levers or any reciprocal movement, will cause such movement to become circular, without the medium of a water-wheel, and will be useful for moving in a direct position ships or vessels against tide or wind, and where human or animal strength is inadequate.	1219	10th March 1779	Matthew Wasbrough.
Moving and conducting ships and vessels without help of sails, and against wind, waves, current, or tide.	1732	13th March 1790	Charles Earl Stanhope.
Moving ships and vessels by the power of air, water, and steam.	1738	24th March 1790	James Runsey.
Moving ships and vessels against wind, waves, currents, or tide.	1771	17th Aug. 1790	Charles Earl Stanhope.
Machine for giving way to ships and other vessels during calms and light winds; "Aquatic propeller."	2000	15th July 1794	William Lyttleton.
Apparatus to be worked by a steam-engine or other first-moving power, for moving barges and other vessels along navigable canals and other waters used for navigation.	2001	16th July 1794	William Fitzgerald.
Method of putting a vessel in motion in calms and light winds [ <i>flat-bottomed vessels moved by wheels</i> ].	2106	3rd May 1796	Patrick Miller.
Machine attached to the stern of any vessel, boat, or barge, for the purpose of moving the same on canals and still waters.	2131	20th July 1796	Thomas Potts.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Cog-wheel, crab, or capstan, with gear to give a ship way in calms or light winds.	2197	31st Oct. 1797	John Harriott.
Machine for causing the progressive motion of ships and vessels without sails or oars.	2371	1st Feb. 1800	Edward Shorter.
Machine to be applied to boats or vessels for the purpose of moving them along with ease and celerity.	2380	19th March 1800	Edward Steers.
Working barges and other vessels - - - -	2541	5th Oct. 1801	James Tremecre.
Mechanical power for rendering ships which are disproportioned to shallow water, capable of entering rivers, passing bars, or otherwise moving in shallow water, and for other useful purposes.	2676	29th Jan. 1803	George Matcham.
Conveying vessels of any burden through the water } without the help of oars or sails - - - - }	3423	26th March 1811	{ John Rose. Thomas Chapman.
Navigating boats, barges and other vessels, on canals, rivers, and other navigable waters, by means of mechanism or machinery to be worked by steam or other suitable power.	3426	26th March 1811	Henry James.
Application of mechanical powers to the propelling ships and vessels through the water.	3441	1st May 1811	Stedman Adama.
Propelling boats or vessels by aid of steam or other power.	3564	9th May 1812	Henry Higginson.
New power applicable to propelling vessels and boats of every description through the water, and also to the pumping of them.	3628	19th Dec. 1812	John Morgan.
Method and machinery for drawing or propelling vessels on water, by means of levers acting alternately or conjointly upon such canals or navigations, or upon machinery attached thereto.	3700	22nd May 1813	William Brunton.
Means of impelling vessels, boats, barges, and rafts;—which may also be applied to other purposes.	3741	18th Oct. 1813	Robertson Buchanan.
Rowing or propelling boats or other vessels - - -	3823	26th July 1814	George Dunnage.
Mechanism applicable to propelling vessels through } the water - - - - - }	3909	25th April 1815	{ Samuel Pauly. Durs Egg.
Facilitating the propulsion of boats or other vessels through the water; safety of the same.	3932	22nd June 1815	Robert Dickinson.
Propelling ships, boats, or other vessels - - -	3989	19th Dec. 1815	Robert Kinder.
Machinery moved by wind, steam, manual labour, or any process now employed for moving machinery, for propelling boats, barges and other floating vessels.	3977	1st Feb. 1816	John Millington.
Propelling boats and vessels through the water -	4006	23rd March 1816	John Merryweather.
Apparatus for propelling vessels, boats, barges, and rafts of all kinds.	4071	1st Nov. 1816	Benjamin Smythe.
Propelling ships and other vessels - - - -	4088	10th Dec. 1816	Richard Wright.
Propelling ships and vessels on seas, rivers and canals, by steam.	4169	10th Oct. 1817	John Oldham.
Propelling boats and other vessels - - - -	4172	1st Nov. 1817	François Marcellin Molle.
Propelling boats and other vessels - - - -	4179	25th Nov. 1817	Joseph Claude Niepce.
Machinery for propelling steam-boats - - -	4209	23rd Jan. 1818	John Scott.
Propelling boats and other vessels - - - -	4300	31st Oct. 1818	Nicholas Desforges.
Machinery for propelling boats, ships or other floating vessels, by wind, steam, animal strength, or water or other power;—applicable to other purposes [ <i>by a jet forced out at the stern</i> ].	4345	4th March 1819	James Jeffray.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Propelling boats and other vessels - - - -	4367	6th May 1819	Henry Booth.
Working the oar or paddles of boats, barges, ships, and other vessels.	4368	8th May 1819	James Mason.
Water-wheel applicable to mills and navigable bodies; other improvements also applicable to mills and other navigable bodies [ <i>paddle-wheels for propelling vessels</i> ].	4416	4th Dec. 1819	Samuel Lambert.
Propelling ships and vessels on seas, rivers, and canals, by steam [ <i>by double-headed oars and sculls, revolving in vertical directions</i> ].	4429	15th Jan. 1820	John Oldham.
Hydro-pneumatic apparatus, acted upon by a steam-engine, for propelling boats on water, and other useful purposes [ <i>by jets of water forced out of the sides of the vessels</i> ] - - - -	4450	19th April 1820	{ George Lillie. James Bristow Fraser.
Propelling, and construction of engines for propelling and other purposes [ <i>wheel or drum for marine propulsion</i> ].	4462	15th May 1820	John Barton.
Propelling, vessels [ <i>by a paddle-wheel placed at the stern and driven by steam-power</i> ].	4469	3rd June 1820	Simeon Teissier.
Apparatus for propelling vessels [ <i>paddles</i> ] - -	4529	19th Jan. 1821	Charles Phillips.
Propelling vessels [ <i>paddle-wheels</i> ] - - - -	4557	5th May 1821	{ John Reedhead. William Parry.
Propelling small vessels or boats [ <i>by a treadwheel</i> ] -	4572	23rd July 1821	Frederic Mighells Van Heythuysen.
Machinery for propelling vessels - - - -	4612	10th Nov. 1821	William Penrose.
Propelling steam-vessels [ <i>paddles</i> ] - - - -	4629	20th Dec. 1821	John Gladstone.
Propelling vessels [ <i>paddle-boards revolving on pivots</i> ]	4712	18th Oct. 1822	{ Thomas Binns. Jonas Binns.
Apparatus for giving increased effect to paddles used in steam-vessels.	4763	18th March 1823	Henry Abberley Price.
Propelling boats and vessels [ <i>by a jet of water driven out at the stern</i> ].	4775	12th April 1823	John Martin Hanchett.
Construction of machinery which when kept in motion by any suitable power or weight, is applicable to obvious concussion, by means of preventing counter-action, and by which the friction is converted into an useful power for propelling vessels on water.	4804	19th Feb. 1824	Moses Isaacs.
Propelling ships, boats, or other floating bodies -	4981	29th June 1824	William Busk.
Propelling vessels [ <i>by oars turning vertically at the stern</i> ].	4989	9th Aug. 1824	Jacob Perkins.
Propelling ships, boats, or other vessels - - -	5002	16th Sept. 1824	{ James Neville. William Busk.
Propelling ships, boats, or other vessels or floating bodies [ <i>elastic plates agitated like a fish's tail</i> ].	5035	11th Nov. 1824	William Busk.
Machinery for propelling vessels [ <i>paddles</i> ] - -	5104	26th Feb. 1825	William Hopkins Hill.
Apparatus for giving motion to vessels employed in inland navigation.	5126	15th March 1825	Samuel Brown.
Machinery for propelling vessels;—applicable to other purposes [ <i>paddle-wheels</i> ] - - - -	5153	20th April 1825	{ John Broomfield. Joseph Luckcock.
Machinery for propelling vessels both in marine and inland navigation [ <i>reciprocating paddles</i> ].	5223	26th July 1825	John Reedhead.
Propelling vessels [ <i>paddles or vanes attached to rotary arms</i> ].	5247	27th Aug. 1825	William Parr.
Propelling vessels - - - - -	5249	8th Sept. 1825	Charles Mercy.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Arrangement of machinery for propelling vessels through the water by steam or other power [ <i>reciprocating paddles working to and fro at the sides</i> ].	5253	15th Sept. 1825	George Holworthy Palmer.
Propelling ships, vessels and boats at sea - - -	5256	15th Sept. 1825	Sir Thomas Cochrane.
Propelling boats, craft, and all other kinds of vessels on canals, rivers, and other shallow waters [ <i>a spur-wheel working against the bed of the river</i> ] -	5274	1st Nov. 1825	{ John Seaward. Samuel Seaward.
Propelling vessels by steam on navigable rivers and canals, by moveable apparatus affixed to the stern of the vessel [ <i>paddle-wheel</i> ].	5393	24th July 1826	William Robinson.
Propelling boats, ships, and other vessels or floating bodies.	5419	18th Oct. 1826	William Busk.
Wheels and paddles for propelling boats and vessels	5424	18th Nov. 1826	Bennet Woodcroft.
Machinery for propelling ships and other vessels [ <i>paddle-wheels and apparatus for towing vessels against strong currents</i> ].	5433	20th Dec. 1826	Charles Harsleben.
Engine for moving and propelling ships and boats [ <i>by heated air mixed with steam</i> ].	5448	15th Jan. 1827	William Wilmot Hall.
Construction of wheels designed for driving machinery to be impelled by water or wind;—applicable to propelling boats and other vessels [ <i>by paddle-wheels</i> ].	5455	1st Feb. 1827	John Oldham.
Machinery for propelling vessels;—applicable to other purposes.	5580	11th Dec. 1827	Paul Steenstrup.
Propelling vessels through the water [ <i>paddle-wheels</i> ]	5587	15th Dec. 1827	Andrew Motz Skene.
Propelling vessels through or on the water by aid of steam or other power; its application to other purposes.	5588	18th Dec. 1827	John Lee Stevens.
Combination of machinery applicable to propelling floating bodies.	5591	19th Dec. 1827	Thomas Stanhope Holland.
Machinery for propelling vessels [ <i>by a jet of water forced out at the stern</i> ].	5594	22nd Dec. 1827	William Hale.
Machinery for propelling boats and other vessels;—applicable to other purposes.	5611	19th Jan. 1828	George Jackson.
Propelling vessels through or on the water, by steam or other mechanical force [ <i>duck's-foot paddles</i> ].	5615	5th Feb. 1828	William Nairn.
Propelling vessels by steam or other power - - -	5628	20th March 1828	Nathan Gough.
Machinery to be used in navigation, chiefly applicable to propelling ships and other floating bodies;—also applicable to other purposes [ <i>paddle-wheels</i> ].	5637	3rd April 1828	Charles Harsleben.
Propelling boats and other vessels - - - - -	5644	29th April 1828	Charles Carpenter Bompus
Propelling vessels, boats and other floating bodies [ <i>enclosing the paddle-wheels at the stern</i> ].	5670	5th July 1828	John Johnston Isaac.
Propelling ships, boats and other vessels on water -	5694	4th Sept. 1828	{ John Seaward. Samuel Seaward.
Propelling vessels - - - - -	5707	18th Sept. 1828	John Melville.
Application of improved engines to a new method of propelling vessels and other floating bodies [ <i>pistons working in hollow cylinders under the water</i> ].	5714	9th Oct. 1828	Thomas Tippet.
Propelling vessels [ <i>by means of a screw</i> ] - - -	5730	10th Dec. 1828	Charles Cummerow.
Apparatus or wheels for propelling vessels - - -	5737	15th Dec. 1828	Anton Bernhard.
Paddle-wheels for propelling steam-packets and other vessels - - - - -	5742	18th Dec. 1828	{ William Stead. James Stead.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Construction of paddles for propelling ships, boats, or vessels on water [ <i>oblique paddle-wheels adjustable to any angle</i> ].	5740	7th Jan. 1829	Archibald Robertson.
Paddles and machinery for propelling ships and other vessels on water.	5750	7th Jan. 1829	Orlando Harris Williams.
Combination of machinery for propelling vessels -	5751	7th Jan. 1829	Francis Neale.
Constructing paddles to facilitate their motion through water.	5753	7th Jan. 1829	Septimus Gritten.
An improvement in or on paddles for propelling boats and other vessels [ <i>paddles turning on independent axes</i> ].	5758	14th Jan. 1829	William Erskine Cochrane.
Steam-engines and machinery connected therewith, to propel steamboats and vessels;—partly applicable to other purposes.	5765	3rd Feb. 1829	Julius Pumphrey.
Propelling ships, boats, and other vessels or floating bodies, by steam or other power [ <i>buoyant plungers</i> ].	5769	19th May 1829	James Dutton.
Machinery for propelling vessels [ <i>paddle-wheels</i> ] -	5793	26th May 1829	William Poole.
Communicating power and motion to ships, vessels, and other floating bodies, by the application of compressed air.	5797	1st June 1829	William Mann.
Machinery for propelling vessels [ <i>paddle-wheels</i> ] -	5805	2nd July 1829	Elijah Galloway.
Machinery for propelling steam-vessels [ <i>paddle-wheels</i> ].	5806	2nd July 1829	Jacob Perkins.
Apparatus for propelling vessels [ <i>by means of legs which strike against the bottom of a river</i> ].	5808	4th July 1829	Robert Crabtree.
Machinery for propelling ships, vessels, or other floating bodies [ <i>paddle-wheels</i> ].	5853	30th Sept. 1829	John Moore.
Machines for propelling vessels by steam [ <i>by oblique paddles on double wheels</i> ].	5857	15th Oct. 1829	William Church.
Machine for raising or forcing water for propelling vessels.	5879	12th Jan. 1830	William Hale.
Propelling vessels;—applicable to other purposes -	5957	19th July 1830	Thomas Bulkeley.
Improvements partly applicable to moving bodies on water, and working other machinery - - - }	6027	4th Nov. 1830	{ Thomas Bramley. Robert Parker.
Apparatus for propelling boats - - - -	6041	29th Nov. 1830	William Church.
Apparatus for propelling boats or vessels, and for other purposes, by the power of steam.	6052	13th Dec. 1830	Richard Witty.
Machinery for propelling boats and other vessels on water [ <i>paddle with a reciprocating action</i> ].	6063	22nd Jan. 1831	Andrew Smith.
Machine to be worked by steam, for moving ships, boats and barges on the water.	6120	24th May 1831	Samuel Hobday.
Propelling boats and other floating bodies;—applicable to other purposes.	6134	13th July 1831	Moses Poole.
Machinery for propelling vessels on water;—applicable to other purposes [ <i>paddle-wheels</i> ].	6147	3rd Aug. 1831	Sir James Caleb Anderson.
Machinery for propelling vessels - - - -	6161	16th Sept. 1831	George Holworthy Palmer.
Machinery for propelling boats, vessels, or other floating bodies on water.	6172	28th Sept. 1831	Miles Berry.
Machinery for propelling vessels - - - -	6180	13th Oct. 1831	William Hale.
Paddle-wheels - - - - -	6212	17th Jan. 1832	Elijah Galloway.
Construction and adaptation of a revolving spiral paddle, for propelling boats and other vessels on water.	6250	22nd March 1832	Bennet Woodcroft.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Application of steam-power to navigation [ <i>propelling navigable vessels</i> ].	6306	22nd Sept. 1832	Richard Trevithick.
Apparatus for propelling [ <i>paddle-wheels</i> ] - - -	6329	7th Nov. 1832	Elijah Galloway.
Paddle-wheels - - - - -	6346	17th Dec. 1832	Joseph Hardwick.
Propelling vessels for inland navigation - - -	6351	20th Dec. 1832	Joseph Saxton.
Engines to be worked by steam or vapour, for propelling boats, vessels, or other floating bodies on water.	6390	21st Feb. 1833	Alexander Gordon.
Paddle-wheels - - - - -	6431	1st June 1833	George Carter.
Applying steam and other power to ships, boats, and other purposes.	6507	19th Nov. 1833	Robert William Brandling.
Propelling vessels - - - - -	6526	19th Dec. 1833	Thomas Sunderland.
Communicating and extending motive-power, by means of which vessels may be propelled on canals.	6570	1st March 1834	Henry Pinkus.
Improvements applicable to locomotion and to other purposes [ <i>marine propulsion</i> ].	6585	29th March 1834	John Cooper Douglas.
Paddle-wheel for propulsion of vessels, and for other } motive purposes - - - - - }	6631	23rd June 1834	{ William Symington. Andrew Symington.
Machinery for propelling vessels on water - -	6651	26th July 1834	{ Thomas John Hamilton, Earl of Orkney. John Easter.
Certain improved machinery applicable for propelling vessels.	6691	10th Oct. 1834	John Ericsson.
Construction of paddle-wheels - - - - -	6760	9th Feb. 1835	James Leeming.
Paddle-wheel for steam-vessels - - - - -	6761	9th Feb. 1835	James Halstead.
Machinery by which steam-power is applied to give motion to ships or other floating vessels in or through water.	6845	2nd June 1835	William Wilkinson.
Paddle-wheels - - - - -	6857	9th July 1835	Henry Vint.
Propelling boats, ships, or other floating bodies -	6859	10th July 1835	William Busk.
Paddle-wheels - - - - -	6860	10th July 1835	John Rogers.
Propelling vessels - - - - -	6862	13th July 1835	Frederick Herbert Maberly.
Communicating and transmitting or extending motive-power, by means whereof vessels may be propelled on canals; apparatus for the purpose.	6885	17th Aug. 1835	Henry Pinkus.
Paddle-wheels for propelling vessels - - -	6887	18th Aug. 1835	Elijah Galloway.
Machinery and apparatus applicable to purposes of locomotion [ <i>marine propulsion</i> ].	6923	5th Nov. 1835	Thomas Earl of Dundonald.
Machinery for propelling vessels by steam - -	6925	7th Nov. 1835	William Symington.
Propelling vessels and other floating bodies by } means of steam or other power - - - }	6963	21st Dec. 1835	{ John Baillie. John Paterson.
Machinery and arrangements for propelling vessels and other floating bodies.	6984	19th Jan. 1836	Charles Harsleben.
Machinery for propelling vessels and other floating bodies moved by steam or other power.	6990	26th Jan. 1836	Henry Pickworth.

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<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Construction of paddles or paddle-wheels for propelling vessels;—applicable to the construction of water-wheels for mills - - - - -	6998	9th Feb. 1836	{ Alexander Massie. Robert Morton. William Ranwell. Ebenezer Ranwell.
Machinery for propelling vessels - - - - -	7007	17th Feb. 1836	William Bucknall.
Arrangement and combination of certain mechanical means of propelling vessels through water.	7037	21st March 1836	Walter Hancock.
Machinery applicable to vessels propelled by steam or other power;—partly applicable to other purposes.	7040	22nd March 1836	William Hale.
Machinery for communicating motion to vessels floating on water - - - - -	7072	26th April 1836	{ William Taylor. Henry Davies.
Propeller for steam and other vessels - - - - -	7104	31st May 1836	Francis Pettit Smith.
Propelling vessels - - - - -	7135	24th June 1836	Samuel Hall.
Mechanical combinations for obtaining power and velocity, applicable to propelling vessels, also to machinery of various descriptions.	7144	11th July 1836	Matthew Heath.
Propeller applicable to steam navigation - - - - -	7149	13th July 1836	John Ericsson.
Propelling vessels and other floating bodies - - - - -	7168	11th Aug. 1836	Edward Light.
Machinery for propelling vessels, and for various other purposes.	7176	25th Aug. 1836	François De Tausch.
Propelling or moving vessels or other floating bodies on water.	7238	3rd Dec. 1836	David Nimes Carvalho.
Means of propelling vessels through water;—partly applicable to other useful purposes.	7368	8th May 1837	John Spurgin.
Paddle-wheels - - - - -	7429	7th Sept. 1837	William James Gifford.
Construction of paddle-wheels applicable to ships, boats, and vessels propelled by steam or other mechanical power.	7431	14th Sept. 1837	Thomas John Cave.
Giving motion to barges and other vessels on canals.	7449	20th Oct. 1837	Henry Robinson Palmer.
Engines for propelling boats or vessels - - - - -	7512	19th Dec. 1837	John Gray.
Paddle-wheels - - - - -	7519	19th Dec. 1837	William Sandford Hall.
Paddle-wheels - - - - -	7524	23rd Dec. 1837	John Elvey.
Propelling vessels through water - - - - -	7544	18th Jan. 1838	Julien Augustus Tarnier.
Construction of paddle-wheels and paddle-boxes of steam-vessels.	7564	8th Feb. 1838	Robert Essex.
Propelling vessels - - - - -	7579	27th Feb. 1838	Josiah Pearce Holebrook.
Machinery for propelling vessels - - - - -	7586	8th March 1838	William Hale.
Propelling vessels - - - - -	7599	24th March 1838	James Lowe.
Propelling ships and other vessels in water - - - - -	7629	1st May 1838	Joseph Jepson Oddy Taylor.
Paddle-wheels - - - - -	7671	5th June 1838	Samuel Parlour.
Apparatus for marine propelling purposes, without steam.	7691	14th June 1838	Richard Goodridge.
Machine applicable for propelling boats and other vessels; also for other purposes.	7729	11th July 1838	Louis Cyprien Callett.
Machinery for propelling vessels by steam - - - - -	7749	26th July 1838	Frederic Edouard Fraissinet.

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<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Propelling canal boats, steamers, and other vessels -	7771	15th Aug. 1838	{ Ramsay Richard Reinagle George Robert D'Harcourt.
Applying steam-power directly to the periphery of the movement-wheel, for purposes of locomotion on water.	7780	30th Aug. 1838	Lawrence Heyworth.
Engines useful as propellers of vessels - - -	7813	13th Sept. 1838	Sir Hugh Pigot.
Machinery for raising water for propelling boats -	7821	20th Sept. 1838	John Hughes Rees.
Construction and arrangement of machinery for propelling vessels by steam.	7870	13th Nov. 1838	George Smith.
Machinery for propelling vessels - - - -	7884	1st Dec. 1838	Peter Taylor.
Machinery for propelling boats or other vessels for marine or inland navigation, and worked by steam or other power.	7940	17th Jan. 1839	William Holme Heginbotham.
Machinery for propelling vessels and boats by steam or other power.	7946	22nd Jan. 1839	John Coope Haddan.
Propelling vessels by steam or other power - -	8006	20th March 1839	{ John Ruthven. Morris West Ruthven.
Machinery for propelling ships, boats, and other vessels on water, in lieu of paddle-wheels.	8046	23rd April 1839	Antonio Movillon.
Paddle-wheels for propelling ships, boats, and other vessels navigated by steam or other motive-power.	8047	23rd April 1839	George Holworthy Palmer.
Propelling vessels - - - - -	8150	13th July 1839	William Woodley.
Improvements applicable to machinery for propelling ships and other vessels - - - - }	8197	16th Aug. 1839	{ William Bridges Adams. John Buchanan.
Propelling vessels - - - - -	8223	19th Sept. 1839	Thomas Todd.
Machinery for propelling [paddle-wheels] - -	8233	7th Oct. 1839	Samuel Hall.
Apparatus for propelling boats and other vessels on water.	8274	19th Nov. 1839	Francis Worrall Stevens.
Propelling vessels - - - - -	8280	23rd Nov. 1839	John Hunt.
Propelling vessels - - - - -	8286	26th Nov. 1839	George Rennie.
Making the power of the steam-engine applicable to new purposes of navigation.	8377	8th Feb. 1840	Joseph Needham Tayler.
Application of steam-engines to propelling ships and other vessels.	8436	17th March 1840	Samuel Scaward.
Arrangement and construction of paddle-wheels -	8542	11th June 1840	Benjamin Winkles.
Propelling canal and other boats - - - -	8544	13th June 1840	Ezra Jenks Coates.
Application of machinery for propelling vessels on the water.	8545	13th June 1840	Edward John Carpenter.
Applying the power of steam-engines to paddle-shafts used in propelling vessels.	8593	7th Aug. 1840	Henry Trew hitt.
Arrangement, construction, and mode of applying apparatus for propelling ships and other vessels.	8603	14th Aug. 1840	Miles Berry.
Apparatus for propelling ships and vessels on water	8632	17th Sept. 1840	{ Henry Fourdrinier. Edward Newman Fourdrinier.
Propellers [submarine propellers] - - - -	8636	21st Sept. 1840	William Hill.
Applying motive-power to propelling vessels - -	8644	24th Sept. 1840	Henry Pinkus.
Shipping and unshipping propellers - - -	8671	2nd Nov. 1840	Henry Wimbhurst.
Paddle-wheels for propelling vessels by steam or other power.	8678	3rd Nov. 1840	John Rapson.
Making paddle-wheels for vessels propelled in the water by steam or other power, applicable to propel vessels and mills.	8714	25th Nov. 1840	Henry Charles Daubeney.



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<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Propelling ships and vessels at sea and in navigable rivers.	8739	28th Nov. 1840	George Blaxland.
Propelling vessels - - - - -	8805	21st Jan. 1841	John Melville.
Propelling vessels through the water;—partly applicable to other purposes - - - - -	8845	15th Feb. 1841	{ James Whitelaw. George Whitelaw.
Connecting and disconnecting from steam-engines the paddle-wheels used for steam navigation.	8888	22nd March 1841	Joshua Field.
Propelling vessels - - - - -	8893	22nd March 1841	David Napier.
Propelling vessels - - - - -	8901	25th March 1841	Edward Finch.
Propelling vessels - - - - -	8970	26th May 1841	William Joest.
Machinery for propelling vessels on water - -	8961	10th June 1841	John George Bodmer.
Propelling vessels on canals, rivers, and other navigable waters.	8994	19th June 1841	Sir Samuel Brown.
Propelling vessels - - - - -	8995	19th June 1841	John George Truscott Campbell.
Propelling vessels on rivers and canals, by power obtained by machinery unconnected with the vessels to be propelled;—"The united stationary and locomotive system."	9038	28th July 1841	Anthony Bernhard Von Rathen.
Propelling vessels - - - - -	9040	4th Aug. 1841	Owen Williams.
Machinery for propelling vessels by steam or other power.	9043	4th Aug. 1841	Stopford Thomas Jones.
Propelling vessels - - - - -	9068	6th Sept. 1841	Pierre Pelletan.
Machinery suitable for applying power to communicate locomotion to bodies requiring to be moved on water.	9143	9th Nov. 1841	Henry Davies.
Propelling ships or vessels - - - - -	9179	16th Dec. 1841	Francis Marx.
Propelling vessels through water - - - - -	9184	16th Dec. 1841	Henry Booth.
Propelling vessels - - - - -	9191	16th Dec. 1841	Charles Loosey.
Propelling vessels - - - - -	9208	21st Dec. 1841	William Burge.
Propelling [adjustment of paddle-floats] - - -	9217	11th Jan. 1842	Richard Dover Chatterton.
Propelling apparatus for marine and other purposes	9294	14th March 1842	Charles William Firchild.
Propelling vessels - - - - -	9348	11th May 1842	John Melville.
Machinery for propelling vessels;—parts of which improvements are applicable to propelling air and gases.	9398	21st June 1842	John Dickson.
Means of applying any such power as is or may be used for propelling vessels, to produce locomotion thereof.	9400	21st June 1842	Thomas Gaunt.
Engine worked by steam, for propelling vessels -	9411	7th July 1842	John Bird.
Propelling vessels - - - - -	9469	9th Sept. 1842	James Wake, junior.
Machinery for applying steam-power to propelling [paddle-wheels].	9516	8th Nov. 1842	Henrik Zander.
Construction and arrangement of engines and their appendages, for propelling vessels on water.	9550	8th Dec. 1842	John Grantham.
Steam-propelling machinery [disconnecting the paddle-shaft from the engine].	9551	8th Dec. 1842	James Brown.
Propelling vessels - - - - -	9563	21st Dec. 1842	Gabriel Hippolyte Moreau.
Propelling vessels - - - - -	9592	19th Jan. 1843	James Hamer.
Propelling vessels - - - - -	9593	19th Jan. 1843	Thomas Karl of Dundonald.
Moving floating bodies through water and air -	9598	19th Jan. 1843	Thomas Sunderland.

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<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Apparatus for propelling marine vessels - - -	9709	20th April 1843	John George Bodmer.
Machinery for propelling vessels - - - -	9706	20th April 1843	James Johnston.
Propelling ships and boats - - - - -	9733	16th May 1843	Robert Walker.
Machinery for propelling ships and other vessels -	9744	25th May 1843	Elijah Galloway.
Paddle-wheels - - - - -	9759	8th June 1843	Robert Smart.
Apparatus for propelling vessels - - - -	9783	15th June 1843	William Edward Newton.
Machinery for propelling vessels;—applicable to other purposes.	9810	1st July 1843	James Lancaster Lucena.
Propelling [ <i>disconnecting the paddle-shaft from the engine</i> ].	9826	6th July 1843	James Joseph Brunet.
Machinery used for propelling vessels by steam-power.	9833	13th July 1843	Joseph Maudslay.
Applying motive-power in combination with apparatus and machinery, to certain purposes in propelling, and applicable to ships and other vessels afloat.	9835	13th July 1843	Henry Pinkus.
Propelling machinery [ <i>an improved form of oblique paddle</i> ] - - - - -	9859	3rd Aug. 1843	{ Peter Borrie. Mayer Henry.
Apparatus for propelling vessels - - - -	9918	2nd Nov. 1843	John Kibble.
Machine for towing or propelling vessels, and which can also be used as a boat.	9956	21st Nov. 1843	Moses Poole.
Machinery for moving vessels and other floating apparatus.	10,009	13th Jan. 1844	Robert Foulerton.
Apparatus for propelling vessels on water - -	10,010	13th Jan. 1844	Anthony Movillon De Glimes.
Arrangements of machinery for communicating motion to vessels for conveying goods and passengers on water.	10,024	25th Jan. 1844	Henry Davis.
Propelling vessels; machinery for working the same	10,034	2nd Feb. 1844	Robert Hodgson.
Propelling vessels - - - - -	10,051	13th Feb. 1844	Bennet Woodcroft.
Propelling vessels by steam-power; machinery for the purpose.	10,095	7th March 1844	William Fairbairn.
Machinery for propelling vessels through the water	10,154	23rd April 1844	Peter Lear.
Propelling vessels - - - - -	10,189	17th May 1844	John M'Intosh.
Propelling vessels on rivers or canals - - -	10,190	17th May 1844	James Pilbrow.
Propelling vessels - - - - -	10,205	30th May 1844	Charles Anthony Deane.
Propelling - - - - -	10,212	4th June 1844	William Henry Phillips.
Apparatus for propelling vessels - - - -	10,243	3rd July 1844	John George Bodmer.
Propelling vessels - - - - -	10,244	3rd July 1844	Christopher Dunkin Hays.
Mechanism applicable to a method of propelling vessels on the water.	10,316	12th Sept. 1844	Elias Robison Handcock.
Fastening on and reefing paddle-wheel float boards or paddles.	10,349	14th Oct. 1844	Sir Graham Eden Hammond, Bart.
Propelling [ <i>submerged propeller</i> ] - - - -	10,453	2nd Jan. 1845	William Hannis Taylor.
Propelling vessels on inland waters - - -	10,458	11th Jan. 1845	George Spencer.
Construction of paddle-wheels - - - -	10,464	11th Jan. 1845	Henry Cartwright.
Propelling vessels - - - - -	10,485	21st Jan. 1845	John Melville.

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<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Steam-propelling machinery [ <i>propelling vessels</i> ] -	10,511	5th Feb. 1845	John Seaward.
Propelling vessels - - - - -	10,531	20th Feb. 1845	Samuel Hall.
Machinery for propelling vessels for steam navigation and for other purposes - - - - -	10,558	13th March 1845	{ John Blyth. Alfred Blyth. George Parker Hubbuck.
Propelling vessels - - - - -	10,578	27th March 1845	{ John Baptiste Simion Teissier. Antoine Hyppolyte Triat.
Propelling boats on canals or rivers - - -	10,706	3rd June 1845	Thomas Lawes.
Construction of machinery for propelling vessels -	10,721	12th June 1845	Frederick Rosenborg.
Construction of parts of apparatus used in propelling vessels by the atmosphere; propelling vessels by atmospheric pressure - - - - -	10,734	23rd June 1845	{ Robert Griffiths. George Hinton Bovill. George Kennett.
Apparatus for propelling vessels on inland waters by atmospheric pressure.	10,770	12th July 1845	Joseph Malcomson.
Propelling vessels - - - - -	10,789	29th July 1845	George Beadon.
Conveyance and propulsion of locomotive-engines and other carriages or bodies, on canals and other inland waters, and also on rail and other roads; propelling vessels on the ocean and navigable rivers.	10,790	29th July 1845	Sir Samuel Brown.
Propelling vessels; machinery connected therewith.	10,819	22nd Aug. 1845	Thomas Oxley.
Propelling [ <i>propelling vessels</i> ] - - - - -	10,857	9th Oct. 1845	John Lake.
Propelling vessels - - - - -	10,944	17th Nov. 1845	Stephen R. Parkhurst.
Propelling vessels - - - - -	10,961	20th Nov. 1845	Samuel Parlour.
Machinery for propelling vessels on water - -	10,964	20th Nov. 1845	William Corscaden Thompson.
Construction and adaptation of apparatus for propelling vessels on water.	10,995	10th Dec. 1845	Christopher Dunkin Hays.
Machinery for propelling vessels;—applicable to other purposes - - - - -	11,017	23rd Dec. 1845	{ John Penn. William Hartree. John Mather.
Machinery for propelling [ <i>connecting and disconnecting screw-propellers</i> ].	11,034	12th Jan. 1846	John Seaward.
Propelling, and propelling machinery [ <i>screw-propeller</i> ].	11,039	13th Jan. 1846	Joseph Maudslay.
Machinery for propelling vessels - - - - -	11,044	20th Jan. 1846	Peter Taylor.
Obtaining and applying motive-power [ <i>propelling vessels</i> ].	11,058	22nd Jan. 1846	Frederick William Campin.
Propelling on water - - - - -	11,069	31st Jan. 1846	James Pilbrow.
Propelling vessels - - - - -	11,072	3rd Feb. 1846	Samuel Brown.
Propelling vessels - - - - -	11,101	25th Feb. 1846	{ George Alexander Thompson. Joseph Wright.
Propelling vessels - - - - -	11,114	27th Feb. 1846	John Samuel Templeton.
Construction and adaptation of a revolving spiral paddle, for propelling boats and other vessels on water [ <i>extension for six years, from the 22nd day of March 1846</i> ].	11,137	31st March 1846	Bennet Woodcroft.

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<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Propelling vessels - - - - -	11,151	25th March 1846	Joseph Needham Taylor.
Paddle-wheels - - - - -	11,195	5th May 1846	John Carter.
Propelling vessels - - - - -	11,207	13th May 1846	Julius Jeffreys.
Machinery for propelling steam-vessels - - -	11,221	26th May 1846	James Montgomery.
Applying motive-power to propelling vessels - -	11,273	29th June 1846	Sir James Caleb Anderson.
Apparatus for propelling, exhausting, and compressing, air and aeriform bodies [ <i>paddle-wheels</i> ].	11,303	23rd July 1846	Peter Claussen.
Propelling ships or vessels - - - - -	11,335	15th Aug. 1846	John Buchanan.
Improvements parts of which are applicable to propelling steam-vessels and to motive purposes generally.	11,352	26th Aug. 1846	Henry Bessemer.
Propelling; machinery connected therewith [ <i>paddle-wheels</i> ].	11,388	25th Sept. 1846	Thomas Bartlett Simpson
Engines to be worked by steam or other power, for the propulsion of vessels.	11,418	15th Oct. 1846	Ebenezer Southworth.
Propelling vessels - - - - -	11,537	19th Jan. 1847	John M'Intosh.
Propelling ships and vessels [ <i>paddle-wheels</i> ] - -	11,684	4th May 1847	Conrad Haverkam Greenhow.
Propelling vessels - - - - -	11,685	4th May 1847	William Henwood.
Apparatus for propelling ships and other vessels -	11,687	4th May 1847	Gardner Stow.
Propelling on water - - - - -	11,695	6th May 1847	Johann Gottlob Seyrig.
Propelling vessels - - - - -	11,763	22nd June 1847	John Mackintosh.
Propelling on water - - - - -	11,813	23rd July 1847	Henry Samuel Rayner.
Machinery for propelling vessels [ <i>paddle-wheels</i> ] -	11,820	29th July 1847	Stopford Thomas Jones.
Propelling ships and other vessels [ <i>paddle-wheels</i> ] -	11,854	6th Sept. 1847	Henry Vint.
Propelling vessels [ <i>paddle-wheels</i> ] - - - - -	11,887	7th Oct. 1847	Sir Samuel Brown.
Machinery for propelling vessels [ <i>paddle-wheels</i> ] -	11,889	7th Oct. 1847	Thomas Hunt Barber.
Propelling vessels [ <i>arrangement of paddles</i> ] - -	11,900	14th Oct. 1847	William Ayre, junior.
Propelling vessels [ <i>arrangement of paddles</i> ] - -	11,936	2nd Nov. 1847	Jean Charles Victor Coullon.
Propelling [ <i>marine propulsion</i> ] - - - - -	11,946	6th Nov. 1847	James Pedder.
Apparatus for propelling ships and other vessels [ <i>paddle-wheels</i> ].	12,020	11th Jan. 1848	Gardner Stow.
Propelling vessels [ <i>arrangement of paddles by means of fan propellers</i> ].	12,050	8th Feb. 1848	Robert Fowles.
Machinery for propelling [ <i>arranging ship propellers</i> ]	12,104	22nd March 1848	William James Dailey.
Propelling on canals; machinery for the purpose -	12,108	4th April 1848	James Pilbrow.
Propelling vessels - - - - -	12,161	26th May 1848	Moses Poole.
Accelerating menatrite locomotion in transport machines acting by wheels on land or water [ <i>paddle-wheels</i> ].	12,183	13th June 1848	John Miller.
Construction and arrangement of engines and machinery for propelling boats and vessels;—partly applicable to land purposes.	12,185	13th June 1848	Joshua Taylor Beale.

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<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Certain apparatus partly applicable to propelling vessels [ <i>paddles</i> ].	12,211	11th July 1848	Jesse Rosse.
Mechanism applicable to impelling and facilitating the propulsion of vessels in the water.	12,282	12th Oct. 1848	Elias Robison Handcock.
Use of electro-magnetism, and its application as a motive-power; also other improvements in its application generally to ships.	12,295	26th Oct. 1848	Soren Hjorth.
Propelling vessels - - - - -	12,344	29th Nov. 1848	{ John Lane. John Taylor.
Propelling ships and other vessels [ <i>paddle-wheels</i> ] -	12,355	2nd Dec. 1848	James Taylor.
Machinery for propelling vessels - - - - -	12,420	16th Jan. 1849	Jean Baptiste François Mazeline.
Propelling ships or vessels - - - - -	12,440	25th Jan. 1849	Wakefield Pim.
Machinery for propelling vessels - - - - -	12,488	28th Feb. 1849	{ John Hick. William Hodgson Gratrix.
Propelling ships or other vessels - - - - -	12,625	31st May 1849	{ John Dugdale. Edward Birch.
Marine and stationary engines; also connecting apparatus of marine engines [ <i>and paddle-wheels</i> ] }	12,627	2nd June 1849	{ Henry Trewwhitt. Thomas Russell Crampton
Machinery for propelling vessels - - - - -	12,683	20th June 1849	Alexander Francis Campbell.
Communicating steam or other power for driving machinery [ <i>working paddle-wheels or propellers</i> ].	12,708	18th July 1849	Evan Leigh.
Propelling ships, vessels or boats, by steam and other powers.	12,739	10th Aug. 1849	John Ruthven.
Propelling vessels - - - - -	12,769	13th Sept. 1849	Robert Griffiths.
Propelling vessels - - - - -	12,788	27th Sept. 1849	Nicholas Doran Maitland.
Propelling vessels - - - - -	12,815	18th Oct. 1849	Ethen Campbell.
Propelling vessels - - - - -	12,829	2nd Nov. 1849	{ William Buckwell. Joseph Apsey.
Propelling ships and other vessels - - - - -	12,860	24th Nov. 1849	{ George Callaway. Robert Allée Purkis.
Propelling [ <i>vessels</i> ] - - - - -	12,973	21st Feb. 1850	Alexander Hediard.
Propelling vessels - - - - -	13,031	5th April 1850	George Henry Phipps.
Propelling [ <i>ship propeller</i> ] - - - - -	13,039	15th April 1850	Floride Heindryckx.
Propelling vessels - - - - -	13,095	1st June 1850	John Tucker.
Propelling vessels - - - - -	13,131	12th June 1850	John Stopporton.
Propelling vessels - - - - -	13,136	19th June 1850	Charles Greenway.
Apparatus and machinery for propelling vessels -	13,138	19th June 1850	Charles Hanson.
Applying steam in propelling vessels - - - - -	13,141	19th June 1850	Ethen Baldwin.
Propelling vessels - - - - -	13,144	20th June 1850	Gaspard Malo.
Propelling vessels - - - - -	13,246	5th Sept. 1850	{ William Erskine Cochrane. Henry Francis.



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<b>MOTIVE-POWER, &amp;c.—continued.</b>			
Propelling [ <i>raising and lowering screw propellers</i> ] -	13,340	12th Nov. 1850	Henry Wimshurst.
Propelling [ <i>paddle-wheels</i> ] - - - - -	13,451	11th Jan. 1851	Charles Barlow.
Propelling vessels - - - - -	13,476	30th Jan. 1851	Bennet Woodcroft.
Propulsion [ <i>propelling vessels by screws</i> ] - -	13,515	17th Feb. 1851	Gustav Adolph Buchholz.
Propelling [ <i>direct action submerged propeller</i> ] - -	13,610	30th April 1851	Henry Lund.
Machinery for propelling ships and vessels - -	13,682	13th May 1851	Edward John Carpenter.
Propelling ships and other vessels - - - - -	13,736	4th Sept. 1851	John Poad Drake.
Engines for applying the power of steam and other fluids for impelling purposes; manufacture of appliances for transmitting motion [ <i>application of endless belts of gutta-percha having diagonal blades constructed and arranged for transmitting motion to ships and other vessels</i> ].	13,738	4th Sept. 1851	John Wallace Duncan.
Machinery or apparatus for pumping, forcing, and agitating fluids [ <i>application of cycloidal bosses for forcing fluids; exemplified in the specification drawing as attached to screw propeller shafts</i> ].	13,779	17th Oct. 1851	Richard Roberts.
Machinery for propelling on water - - - - -	13,805	6th Nov. 1851	William Thomas.
Paddle-wheels - - - - -	13,820	20th Nov. 1851	Frederick Joseph Bramwell.
Propelling vessels on water - - - - -	13,835	27th Nov. 1851	John Lee Stevens.
Propelling vessels and facilitating their progress through water.	13,840	4th Dec. 1851	John Mackintosh.
Propelling ships, boats and vessels, by steam or other power.	13,944	31st Jan. 1852	Alexander Hédiard.
Propelling vessels - - - - -	13,945	31st Jan. 1852	Joseph Haythorne Read.
Propelling vessels - - - - -	14,005	8th March 1852	William Edward Newton.
Paddle-wheels - - - - -	14,114	4th May 1852	Richard Archibald Brooman.
Improvements in and applicable to boats, ships, and other vessels [ <i>a spiral vane propeller; arrangement of propellers</i> ].	14,130	22nd May 1852	Richard Roberts.
Machinery for propelling vessels; apparatus to be used in connexion therewith.	14,150	1st June 1852	Alfred Vincent Newton.
Paddles for steam vessels - - - - -	14,192	28th June 1852	Matthew Augustus Crooker.
Propelling ships and other vessels on water [ <i>extension for 4 years from 1st May, 1852</i> ].	14,214	6th July 1852	Joseph Jepson Oddy Taylor.
Construction of machinery for supplying rotary motion to carriages, vessels, and water mills.	14,242	29th July 1852	Frederick Winter.
Propelling vessels - - - - -	14,263	19th Aug. 1852	{ James Lowe. Thomas Eyre Wych.
Floating and moving vessels, vehicles, and other bodies on and over water.	14,291	16th Sept. 1852	Frederick Sang.
Propelling - - - - -	14,323	14th Oct. 1852	Thomas Carter.
[See also "AIR"—"STEAM"—"WATER."]			

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOULDINGS AND ORNAMENTS FOR BUILDINGS, COACHES, FURNITURE, &amp;c.</b>			
Method of impressing in imitation of engraving upon varnish laid on copper, iron, paper, and other bodies to be used in coach-panels, snuff-boxes, and merchandise and devices.	737	10th Feb. 1759	Stephen Bedford.
Making ornaments with paper to resemble wood-carving, for the inside and outside of buildings and ships, and for furniture.	1058	20th Dec. 1773	John Pickering.
Ornamenting carriages, sedan chairs, buildings, furniture, musical instruments, books, &c.	1065	14th Feb. 1774	Joseph Jacob, junior.
Making ornaments, such as arms, supporters, borders, cyphers, and flowers, for coaches and carriages, to be pierced on copper or other metallic or composition plates, and afterwards painted, gilt, glazed, bronzed, inlaid, or coloured, and contrived so as to be put on or taken off as occasion may require.	1085	10th Nov. 1774	John Hatchett.
Stamping ornaments for furniture - - -	1165	1st Aug. 1777	{ John Marston. Samuel Bellamy.
Making ornaments of stained and unstained glass, combined.	1268	22nd Nov. 1780	William Peckett.
Making metallic ornaments and mouldings for grates and fenders, borders for tea-waiters, trays, and bottle stands.	1373	24th May 1783	William Playfair.
Making mouldings and ornaments for rooms and ceilings, and for other purposes.	1576	14th Dec. 1786	Obadiah Westwood.
Multiplying engravings or chasings on metals; applicable to ornaments on coaches and coach harness, and to many other purposes where chasings are required.	1658	8th July 1788	James Yates.
Manufacturing from leather, leather-cuttings, shavings or parings, and whit-leather, a leather for making mouldings and other ornaments for rooms.	1723	20th Jan. 1790	Samuel Hooper.
Ornamenting straps, coaches, chaises, and phaetons	1727	23rd Feb. 1790	Samuel Hands.
Mouldings - - - - -	1799	4th April 1799	John Bevan.
Making and manufacturing of iron and steel, or both united, plates, beads, mouldings, and other articles - - - - -	2134	25th Aug. 1796	{ Arnold Wilde. Joseph Ridge.
Application of machinery for striking mouldings -	2742	19th Nov. 1803	James Bevans.
Machine for making mouldings, beads and other articles, of clay, loam, or similar materials.	3319	22nd March 1810	Johann George Deyerlien.
Making stamped fronts for stoves, fenders, tea-trays, mouldings and other articles, in brass and other metals.	3800	7th April 1814	Isaac Mason.
Chimney ornaments, that may be used for screens, flower or sweet jars, time-pieces, cases, candle-sticks, toast-stands, and for other purposes.	4132	3rd June 1817	Benjamin Ager Day.
Making metallic and other mouldings for ornamenting furniture - - - - -	4765	18th March 1823	{ William Bailey. Thomas Horne.
Manufacture of fancy ornaments and figures [from caoutchouc].	5970	5th Aug. 1830	Thomas Hancock.
Means of producing figured surfaces, sunk and in relief, and of printing therefrom; and also of moulding, stamping, and embossing [employing caoutchouc for such purposes].	7552	25th Jan. 1838	Charles Hancock.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MOULDINGS, &amp;c.—continued.</b>			
Preparing mouldings and producing the effect of chasing or embossing devices or patterns on frames and other work.	8029	10th April 1839	James Clement.
Producing plain and ornamental articles and surfaces from cements or earths, separately or combined with other materials	8090	4th June 1839	{ Christopher Nickels. John Danforth Greenwood.
Framing mouldings, figures or other ornamental work, for external decorations of buildings and for other purposes [ <i>from potter's clay or earthenware.</i> ]	8142	3rd July 1839	James Yates.
A new covering or plating for household furniture, picture frames, cabinet and fancy work, and other articles of domestic or personal use; and mode of making such covering or plating [ <i>preparing skins of animals, also old parchment for veneering purposes.</i> ]	8193	13th Aug. 1839	Henry Brown.
Manufacture of mouldings [ <i>applying sheet metal to wood.</i> ]	8390	22nd Feb. 1840	Richard Cuerton.
Preparing materials and applying them to the manufacture of ornamental mouldings, and other useful purposes.	8890	5th Oct. 1843	Benedict Albano.
Construction of apparatus for cutting ornamental forms, beads, recesses and mouldings, in wood, stone, &c.	10,517	10th Feb. 1845	William Irving.
Moulding iron - - - - -	10,997	10th Dec. 1845	{ Robert Mushet. William Mushet.
Machinery and processes for pressing and moulding plastic materials.	11,136	18th March 1846	John Longbottom.
Cornice ornaments - - - - -	11,276	30th June 1846	James Hastings.
Moulding articles from certain plastic materials -	11,289	14th July 1846	Charles Frederick Bielefeld.
Machinery for working mouldings - - -	11,564	8th Feb. 1847	Thomas Brown Jordan.
Attaching surfaces of earthenware, china, or glass, to articles made of metal, wood, or other materials.	11,568	8th Feb. 1847	William Sadler Kennedy.
Improvements applicable to the moulding and finishing the surfaces of various articles made from gutta percha.	11,917	21st Oct. 1847	Thomas Forster.
Apparatus for cutting or carving ornamental forms in wood, stone, and other materials.	12,073	23rd Feb. 1848	William Irving.
Apparatus and machinery for giving shape and configuration to plastic substances.	12,223	29th July 1848	Charles Hancock.
Application of glass and glass services to nautical, architectural, and other purposes [ <i>applying glass mouldings as architectural ornaments.</i> ]	12,230	7th Aug. 1848	David Newton.
Preparing plastic materials for manufacturing purposes [ <i>a mixture of marl with combustible materials.</i> ]	12,619	24th May 1849	{ Thomas Goodfellow. George Goodfellow.
Forming and moulding plastic substances, and apparatus employed therein [ <i>manufacturing gutta percha and similar plastic materials into beadings or mouldings; cutting pattern moulds for the purpose.</i> ]	13,146	20th June 1850	John Hunt.
Moulding, casting, ornamenting, and finishing articles and surfaces [ <i>ornamental bricks.</i> ]	13,791	29th Oct. 1851	{ William Adolphus Biddell. Thomas Green.
Machinery for pressing or moulding certain substances; applicable to moulding or pressing other substances [ <i>making boxes for containing steel pens by means of a composition of gutta-percha, farinaceous matter and woody fibre, either or both.</i> ]	14,098	23th April 1852	{ John Hinks. Eugene Nicolle.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MUSICAL INSTRUMENTS.</b>			
<b>I.—Stringed, Wind, Keyed, and other Instruments.</b>			
Making silk strings for stringed musical instruments	1063	27th Jan. 1774	Peter Nonaille.
Ornamenting musical instruments - - -	1065	14th Feb. 1774	Joseph Jacob.
Constructing musical instruments - - -	1664	15th Aug. 1788	Charles Claggett.
Musical instrument, to be played upon with the fingers like a piano-forte.	1866	18th April 1792	John Geib.
Invention applicable to musical instruments; the principles being applicable to other machinery.	2446	13th Nov. 1800	Isaac Hawkins.
Musical keyed instruments of 12 fixed tones - -	3154	25th July 1808	William Hawkes.
Musical instruments - - - - -	3182	26th Nov. 1803	Charles Gostling Townley.
Musical instruments - - - - -	3404	4th March 1811	John Trotter.
Stringed musical instruments - - - - -	3436	24th April 1811	William Bundy.
Mechanical musical instruments; applicable to clocks or other machinery.	3487	9th Sept. 1811	John Chancellor.
Musical instruments - - - - -	3658	3rd March 1813	Frederick Hanck.
Musical instruments - - - - -	3765	9th Dec. 1813	John Bateman.
Musical instruments - - - - -	3835	4th Aug. 1814	Sebastian Erard.
Musical wind instruments - - - - -	4293	31st Aug. 1818	Frederick Dizi.
Keyed musical instruments [ <i>Terpolian, giving out sound by friction on wood</i> ] - - - - -	4637	14th Jan. 1822	{ David Loeschman. James Allwright.
Wind musical instruments [ <i>turning the tubes of a brass horn</i> ].	4849	9th Oct. 1823	Joseph Rogerson Cotter.
Finger-keyed musical instrument, in the use of which a performer can hold or prolong the notes and increase or modify the tone at pleasure [ <i>adaptation of musical glasses</i> ].	5068	11th Jan. 1825	Goldsworthy Gurney.
Certain stringed musical instruments [ <i>mechanism for obtaining tension in a harp</i> ].	5404	22nd Aug. 1826	John Charles Schwieso.
Stringed musical instruments [ <i>peg for stringing</i> ] -	5533	1st Aug. 1827	Eugene du Mesnil.
Musical instruments - - - - -	5802	19th June 1829	{ Francis Day. August Münch.
Construction of wind musical instruments [ <i>Symphonion, having sonorous metallic springs</i> ].	5803	19th June 1829	Charles Wheatstone.
Musical instruments - - - - -	6453	7th Oct. 1833	Goldsworthy Gurney.
Musical instruments - - - - -	6964	21st Dec. 1835	Thomas Howell.
Forming musical instruments in which continuous sounds are produced from strings, wires, or springs - - - - -	7154	27th July 1836	{ Charles Wheatstone. John Green.
Arrangement and construction of wind musical instruments.	7892	1st Dec. 1838	John Shaw.
Musical instruments - - - - -	7894	6th Dec. 1838	Daniel Chandler Hewitt
Stringed musical instruments - - - - -	8137	2nd July 1839	Henry Pape.
Construction of certain musical instruments, partly applicable to piano-fortes, seraphines, and certain descriptions of organs - - - - -	8164	20th July 1839	{ John Frederick Myers. Joseph Storck.
Wind and stringed musical instrument - - -	8414	4th March 1840	Charles Alexander Pollerin.
Wind and stringed musical instruments - - -	8680	5th Nov. 1840	Pierre Matthew Mannoury.
Machinery for making parts of musical instruments	9993	21st Dec. 1843	Pierre Frederick Ingold.
Covering stringed and keyed musical instruments -	10,270	24th July 1844	William Brockedon.
Stringed and wind musical instruments - - -	10,385	9th Nov. 1844	Daniel Chandler Hewitt.
Certain stringed and wind musical instruments -	10,589	7th April 1845	John Rand.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MUSICAL INSTRUMENTS—continued.</b>			
Musical instruments - - - - -	10,668	17th May 1845	John Henry Pape.
Musical instruments - - - - -	11,180	28th April 1846	Isaac Henry Robert Mott.
Musical instruments - - - - -	11,886	7th Oct. 1847	Alexander Bain.
Musical instrument; apparatus to be used in connection therewith.	12,307	2nd Nov. 1848	Charles Dawson.
Stringed musical instruments - - - - -	13,221	12th Aug. 1850	Charles Cadby.
Musical instruments - - - - -	13,423	20th Dec. 1850	John Henry Pape.
Musical instruments - - - - -	13,601	24th April 1851	Joseph Clinton Robertson.
<b>XL.—Pianofortes, Organs, and similar Instruments.</b>			
Instrument to be applied to organs, clocks, harpsichords, virginals or similar instruments, to cause the same to chime or play tunes, which may be altered without changing the instrument - - -	337	20th Oct. 1694	{ George Joyce. Peter East.
Harpsichords - - - - -	521	22nd Oct. 1730	John Harris.
Pens of silver, brass, steel or other metal, for harpsichords and spinnets, in lieu of crow-quill.	525	17th Dec. 1730	William Barton.
Organ with the open diapason in the front; with one or more sets of keys, and the bellows to be worked either with the feet or the hands.	527	13th April 1731	Justinian Morse.
Meliorating harpsichords, lyrichords, and spinnets -	581	13th Dec. 1741	Roger Plenius.
Harpsichords and spinnets - - - - -	613	10th July 1745	Roger Pleunius.
Machinery to improve harpsichords - - -	647	18th Dec. 1769	Burkat Shadi.
Single harpsichord, answering all the purposes of a double one.	677	28th Dec. 1770	Thomas Haxby.
Method of producing continued tones from the wire strings of a harpsichord "Celestina."	1020	29th July 1772	Adam Walker.
Compound harpsichords, with a set of hammers similar to those in a piano-forte, in addition to quills; adding such hammers to common harpsichords.	1081	12th Sept. 1774	Joseph Merlin.
Construction of harpsichords, being a mode of putting on the quills to strike the strings, with a pedal and swell which raises the top, brings on the tone, and swells a new celestial stop.	1092	28th Dec. 1774	Samuel Gillespy.
Grand pianoforte, with an octave swell - - -	1172	21st Nov. 1777	Rober Stodart.
Pianoforte - - - - -	1379	18th July 1783	John Broadwood.
Musical instrument called the "Grand Harmonica"	1536	11th March 1786	Griffith James Cheese.
Pianoforte and harpsichord - - - - -	1571	9th Nov. 1786	John Geib.
Piano-forte, harpsichord, and other musical instruments.	1596	31st March 1787	John Landreth.
Piano-fortes and other musical instruments - - -	1607	25th May 1787	Humphrey Walton.
Organs and other musical instruments; also conveyance of music or the sound of the voice to a distance.	1637	15th Jan. 1788	Samuel Bury.
Making and annexing the tambourine, tabor, or drum and pipe, to barrel organs and musical instruments; constructing such barrel organs and musical instruments so as to beat and play the said tambourine, tabor, or drum and pipe therewith at pleasure.	1712	8th Dec. 1789	George Godfrey.
Grand pianoforte with a spring key touch - - -	1743	13th April 1790	John Crang Hancock.
Square and other pianofortes - - - - -	1764	16th Nov. 1790	James Ball.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MUSICAL INSTRUMENTS—continued.</b>			
Construction of pianofortes and other musical instruments where hammers are or can be used -	1817	26th Jan. 1792	George Buttery.
Pianoforte - - - - -	1849	4th Feb. 1792	George Garcha.
Pianofortes and harpsichords - - - - -	1887	6th June 1792	James Davis.
Construction of pianofortes; applicable to all kinds of instruments where keys are used.	2016	17th Oct. 1794	Sebastian Erard.
Construction of pianofortes - - - - -	2017	18th Oct. 1794	William Southwell.
Upright grand pianoforte - - - - -	2028	12th Jan. 1795	William Stodart.
Harpsichord, grand pianoforte, and square pianoforte - - - - -	2160	31st Jan. 1797	{ William Rolfe. Samuel Davies.
Action and construction of pianofortes, and other musical instruments.	2264	8th Nov. 1798	William Southwell.
Internal bracings of pianofortes, to admit the introduction of a drum, tabor or tambourine into the internal parts of the instrument.	2345	3rd Oct. 1799	Joseph Smith.
Construction of barrel organs - - - - -	2468	27th Jan. 1801	John Longman.
Construction of pianofortes - - - - -	2502	16th May 1801	Sebastian Erard.
Pianofortes - - - - -	2551	7th Nov. 1801	John Conrad Becker.
Making pianofortes - - - - -	2552	10th Nov. 1801	{ Antonius Bennetzrieder. Robert Scott. John Scott. Alexander Scott.
Moveable keys for pianofortes, organs and other instruments.	2562	28th Nov. 1801	Edward Ryley.
Action and construction of upright pianofortes -	2591	9th March 1802	Thomas Loud.
Constructing harpsichords, pianofortes and other stringed musical instruments.	2716	28th June 1803	George Woods.
Cabinet pianofortes - - - - -	3029	8th April 1807	William Southwell.
Pianofortes - - - - -	3170	24th Sept. 1808	Sebastian Erard.
Musical scale of keyed instruments with fixed tones, such as pianos, organs, &c. [adding six pedals].	3250	26th July 1809	David Locschman.
Pianofortes - - - - -	3332	2nd May 1810	Sebastian Erard.
Construction of organs - - - - -	3354	3rd July 1810	{ Henry Liston. Charles Broughton.
Construction of pianofortes - - - - -	3403	4th March 1811	William Southwell.
Upright pianoforte - - - - -	3419	26th March 1811	Robert Wornum.
Upright pianoforte - - - - -	3481	9th Sept. 1811	William Frederick Collard.
Æolian organ or barrel organ with a self-acting swell.	3849	1st Nov. 1814	James Longhurst.
Keyed instruments, as pianofortes, harpsichords, organs, &c., or any instrument to which keys can be fixed.	4030	14th May 1816	William Simmonda.
Applying an octave stop to pianofortes - - -	4068	14th Oct. 1816	Joseph Kirkman.
Construction of pianofortes and other keyed musical instruments.	4080	14th Nov. 1816	John Day.
Producing tones from vibrating substances, "Sostinenti pianoforte."	4099	1st Feb. 1817	Isaac Henry Robert Mott.
Pianofortes [distending the strings on a metal frame] - - - - -	4431	15th Jan. 1820	{ James Thom. William Allen.
Pianofortes and certain other stringed instruments -	4480	13th May 1820	Robert Wornum.
Pianofortes [an additional bridge and a moveable hamper].	4512	8th March 1821	William Frederick Collard.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MUSICAL INSTRUMENTS—continued.</b>			
Cabinet pianofortes [ <i>the action parts</i> ] - - -	4546	5th April 1821	William Southwell.
Pianofortes and other keyed instruments [ <i>escapement action</i> ].	4631	22nd Dec. 1821	Pierre Erard.
Pianofortes and other stringed instruments - -	4759	18th Feb. 1823	Francis Denkin.
Construction of pianofortes [ <i>the action</i> ] - -	4821	24th July 1823	Henry Smart.
Producing tone upon musical instruments of various descriptions [ <i>obtaining violin notes from pianofortes</i> ].	4873	22nd Nov. 1823	Thomas Todd.
Augmenting the tones of pianofortes, organs, and euphonons, and other musical instruments [ <i>by introducing drums</i> ].	4894	29th July 1824	William Wheatstone.
Pianofortes - - - - -	5085	5th Jan. 1825	Pierre Erard.
Securing square pianofortes from injuries arising from the tension of the strings.	5085	18th Jan. 1825	Francis Melville.
Mechanism and general construction of pianofortes -	5107	26th Feb. 1825	George Augustus Kollman.
Square pianofortes [ <i>preventing the recoil of the hammer</i> ].	5291	6th Oct. 1825	James Shudi Broadwood.
Pianofortes [ <i>action part</i> ] - - - - -	5384	4th July 1826	Robert Wornum.
Construction of pianofortes - - - - -	5408	20th Feb. 1827	Pierre Erard.
Pianofortes; and mode of stringing the same [ <i>dampers</i> ].	5475	22nd March 1827	James Stewart.
Grand Pianofortes - - - - -	5485	9th April 1827	James Shudi Broadwood.
Pianofortes - - - - -	5528	25th July 1827	Edward Dodd.
Pianofortes [ <i>altering the pitch</i> ] - - - - -	5548	30th Aug. 1827	William Dettmer.
Pianofortes [ <i>additional sounding board</i> ] - -	5678	10th July 1828	John Henry Anthony Gunther.
Upright pianofortes [ <i>lever and key</i> ] - - -	5678	24th July 1828	Robert Wornum.
Musical instruments [ <i>adapting sonorous metallic springs to a pianoforte</i> ].	5802	19th June 1829	{ Francis Day. August Münch.
Self-acting pianofortes - - - - -	5831	11th Aug. 1829	Thomas Hall Rolfe.
Pianofortes [ <i>action part</i> ] - - - - -	5865	2nd Nov. 1829	James Stewart.
Pianofortes [ <i>keys and action part</i> ] - - -	5912	27th Feb. 1830	Simon Thompson.
Pianofortes and other stringed instruments - -	6069	2nd Feb. 1831	John Charles Schwieso.
Pianofortes - - - - -	6140	20th July 1831	William Allen.
Ornamenting the finger-keys and other parts of pianofortes, organs, and other musical instruments.	6280	28th June 1832	Frederick William Isaac.
Pianofortes - - - - -	6304	8th Sept. 1832	Pierre Frederick Fischer.
Pianofortes and other stringed musical instruments	6498	1st Nov. 1833	Jacob Frederic Zeitter.
Mechanism of horizontal, grand, and square pianofortes.	6744	15th Jan. 1835	James Stewart.
Pianofortes - - - - -	6770	28th Feb. 1835	Frederick Ludwig Hahn Danchell.
Construction of the sounding body of pianofortes, on the principle of acoustics.	6780	2nd March 1835	Robert Wolf.
Pianofortes - - - - -	6835	13th May 1835	Pierre Frederick Fischer.
Pianofortes and other keyed instruments - -	6971	31st Dec. 1835	Pierre Erard.
Pianofortes - - - - -	7006	17th Feb. 1836	Joseph Liddel.
Construction of pianofortes - - - - -	7021	8th March 1836	John Godwin.
Pianofortes - - - - -	7025	8th March 1836	Charles Guynemer.
Pianofortes - - - - -	7094	14th May 1836	Wheatley Kirk.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MUSICAL INSTRUMENTS—continued.</b>			
Pianofortes - - - - -	7424	24th Aug. 1837	William Southwell.
Grand and other pianofortes - - - - -	7971	21st Feb. 1839	Johann Andreas Stumpff.
Mechanism and general construction of pianofortes -	7979	23rd Feb. 1839	George Augustus Kollman.
Improvements partly applicable to pianofortes, organs, and seraphines - - - - -	8164	20th July 1839	{ John Frederick Myers. Joseph Storer.
Pianofortes - - - - -	8388	14th Feb. 1840	Joseph Clarke.
Pianos - - - - -	8528	1st June 1840	John Hawley.
Pianoforte - - - - -	8643	24th Sept. 1840	Pierre Erard.
Pianofortes - - - - -	8692	7th Nov. 1840	Edward Dodd.
Construction of pianofortes, harpsichords, and other similar stringed musical instruments.	8737	16th Dec. 1840	John Stewart.
Construction of pianofortes - - - - -	8999	23rd June 1841	John Godwin.
Construction of pianofortes - - - - -	9023	7th July 1841	John Stewart.
Action of horizontal pianofortes - - - - -	9150	11th Nov. 1841	James Stewart.
Action of cabinet pianofortes - - - - -	9226	15th Jan. 1842	Thomas Lambert.
Name board of a pianoforte, harpsichord, or other like instrument.	9245	2nd Feb. 1842	Henry Fowler Broadwood.
Action of pianofortes - - - - -	9262	15th Feb. 1842	Robert Wornum.
Action of pianofortes - - - - -	9594	19th Jan. 1843	Joseph Kirkman.
Making pianofortes - - - - -	9631	11th Feb. 1843	Henry Du Bochet.
Action of pianofortes - - - - -	9716	29th April 1843	{ James Stewart. Thomas Lambert.
Concertinas and other musical instruments in which the sounds are produced by the action of wind or vibratory springs.	10,041	8th Feb. 1844	Charles Wheatstone.
Pianofortes - - - - -	10,238	26th June 1844	Charles Maurice Elizee Sautter.
Pianofortes - - - - -	10,341	10th Oct. 1844	Obed Michel Coleman.
Pianofortes - - - - -	10,430	12th Dec. 1844	Sebastian Mercier.
Construction of pianofortes - - - - -	10,592	7th April 1845	William Hattersley.
Pianofortes - - - - -	10,868	10th Oct. 1845	Edward Lesley Walker.
Pianofortes - - - - -	10,897	27th Oct. 1845	Benjamin Nickells.
Apparatus to be applied to pianofortes [ <i>an arrangement of stops to produce harmonic sounds, forming an echo to the ordinary tone</i> ].	10,937	11th Nov. 1845	Samuel Thomas Cromwell.
Musical instruments [ <i>pianofortes</i> ] - - - - -	11,180	28th April 1846	Isaac Henry Robert Mott.
Pianofortes - - - - -	11,242	16th June 1846	Frederic Handell Burkin- young.
Organs, seraphines, and other "free-reed" instruments; partly applicable to pianofortes.	11,261	27th June 1846	Joseph Storer.
Pianofortes - - - - -	11,285	8th July 1846	Thomas Woolley.
Keys of pianofortes and other keyed musical instruments.	11,320	31st July 1846	Theophile Auguste Dreschke.
Keyed musical instruments [ <i>pianofortes</i> ] - - -	11,359	29th Aug. 1846	Alexandre Debain.
Pianofortes; and the musical scale of notes for the same.	11,681	29th April 1847	John Spear.
Method of producing musical sounds [ <i>an instrument formed by an arrangement of tuning forks acted upon by springs</i> ].	11,768	28th June 1847	Utile Corelli Hill.
Pianofortes and other similar finger-keyed instruments.	12,018	11th Jan. 1848	James Montgomery.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MUSICAL INSTRUMENTS—continued.</b>			
Jacquard machinery, for figuring fabrics and tissues generally, and apparatus for transmission of designs to said Jacquard machinery; parts of which are applicable to playing musical instruments, composing printing types, and other like purposes [ <i>application to musical instruments of an endless band of paper, gutta percha, or other suitable material, having a tune punched out therein, for the production of sound</i> ].	12,229	5th Aug. 1848	Duncan Mackenzie.
Application of glass and glass surfaces to nautical, architectural, and other purposes [ <i>applying glass as the semi-tone keys of pianofortes, organs, and other similar musical instruments</i> ].	12,230	7th Aug. 1848	David Newton.
Machinery for figuring textile fabrics; partly applicable to playing certain musical instruments, and also to printing and other like purposes [ <i>combining pattern paper with pegs capable of sliding in and out of a cylinder, for playing barrel organs and other musical instruments</i> ].	12,421	16th Jan. 1849	William Martin.
Construction of pianofortes - - - - -	12,609	15th May 1849	William Phillips Parker.
Construction of the pallets or valves of organ soundboards or wind chests, applicable to various other musical instruments.	12,886	10th Dec. 1849	William Holt.
Construction of pianofortes - - - - -	13,252	12th Sept. 1850	Pierre Erard.
Construction of organs - - - - -	13,538	28th Feb. 1851	Henry Willis.
Musical instruments [ <i>pianofortes</i> ] - - - - -	13,601	24th April 1851	Joseph Clinton Robertson.
Pianofortes - - - - -	13,652	3rd June 1851	John Hopkinson.
Pianofortes - - - - -	13,816	15th Nov. 1851	Pierre Erard.
Pianofortes - - - - -	13,821	20th Nov. 1851	Thomas Statham.
Manufacture, preparation, and combination of materials or substances for production of fuel, and for other purposes to which natural coal can be applied [ <i>by moulding, after carbonizing, and pulverizing, for the manufacture of sounding-boards for pianofortes</i> ].	13,911	24th Jan. 1852	William Pidding.
Pianofortes - - - - -	13,930	27th Jan. 1852	Thomas Lambert.
Construction of pianofortes - - - - -	13,947	31st Jan. 1852	William Squire.
Organs, seraphines, pianofortes, and other similar wind instruments [ <i>applying electricity to the keys</i> ].	14,223	15th July 1852	Henry John Gauntlett.
<b>III.—Harps, Violins, and Guitars.</b>			
Making gut-string for violins and other musical instruments.	1001	31st Jan. 1772	William Lovelace.
Violins and other instruments played on finger boards	1140	7th Dec. 1776	Charles Claggett.
Guitars - - - - -	1394	5th Nov. 1783	Christian Clauss.
Musical instrument (British lyre) - - - - -	1449	20th Aug. 1784	William Jackson.
Guitars - - - - -	1491	23rd July 1785	John Goldsworth.
Guitars and other musical instruments - - - - -	1598	31st March 1787	John Landreth.
Harp - - - - -	1743	13th April 1790	John Crang Hancock.
Construction of harps - - - - -	2016	17th Oct. 1794	Sebastian Erard.
Pedal harp - - - - -	2397	3rd May 1800	George Froschle.
Construction of harps - - - - -	2502	16th May 1801	Sebastian Erard.
Harps - - - - -	2551	7th Nov. 1801	John Conrad Becker.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MUSICAL INSTRUMENTS—continued.</b>			
Construction of harps - - - - -	2595	24th March 1802	Sebastian Erard.
Constructing harps, violins, guitars, and other stringed musical instruments.	2718	28th June 1803	George Woods.
Making a pedal harp - - - - -	2838	5th April 1805	Richard Jubb.
Harps - - - - -	3059	13th July 1807	Charles Gröll.
Harps - - - - -	3170	24th Sept. 1808	Sebastian Erard.
Harps - - - - -	3332	2nd May 1810	Sebastian Erard.
Constructing musical instruments which afford their tones by friction; applicable to metallic substances.	3531	28th Jan. 1812	Charles Gröll.
Harps - - - - -	3642	22nd Jan. 1813	{ Charles Gröll. Frederick Dizi.
Construction of pedal harps - - - - -	3693	8th May 1813	Jacob Erat.
Harp lute, or British harp lute - - - - -	4041	18th June 1816	Edward Light.
Harps - - - - -	4171	1st Nov. 1817	Frederick Dizi.
Pedal harps - - - - -	4343	13th Feb. 1819	Robert Willis.
Harps [arrangement of the stops] - - - - -	4670	24th April 1822	Pierre Erard.
Pedal harps - - - - -	4671	24th April 1822	Edward Dodd.
Harps - - - - -	4672	24th April 1822	James Delevan.
Harp, lute, and Spanish guitar - - - - -	5618	21st Feb. 1828	Angelo Benedetto Ventura.
Harps - - - - -	6962	18th Dec. 1836	Pierre Erard.
Producing harmonic sounds on the harp - - - - -	7241	3rd Dec. 1836	James Corbett.
Harps; applicable to other musical instruments - - - - -	7450	20th Oct. 1837	John Frederick Grosjean.
Harps - - - - -	8526	1st June 1840	John Hawley.
Construction of violins and other similar stringed musical instruments.	18,926	27th Jan. 1852	Helson Smith.
<b>IV.—Flutes, Clarionets, and similar Instruments.</b>			
German flute; part of the improvements applicable to other musical wind instruments that are played upon with keys.	1499	28th Oct. 1785	Richard Potter.
German flute - - - - -	1743	13th April 1790	John Crang Hancock.
Clarionet; in part applicable to wind instruments played on with keys.	2381	19th March 1800	James Wood.
Flageolet, or English flute - - - - -	2693	1st April 1803	William Bainbridge.
Flageolet, or English flute, so constructed that two parts of a musical composition may be played thereon at one time.	2995	13th Dec. 1806	Thomas Scott.
Construction of the flageolet, or English flute - - - - -	3013	20th Feb. 1807	Henry Kauffman.
Flageolet, or English flute - - - - -	3043	14th May 1807	William Bainbridge.
German flute - - - - -	3074	19th Oct. 1807	Tebaldo Monzani.
German flutes and other wind musical instruments - - - - -	3136	28th May 1808	William Henry Potter.
Construction of flutes, flageolets, hautboys, and other wind instruments.	3183	26th Nov. 1808	Frederick Nolan.
English flute, or flageolet - - - - -	3308	26th Feb. 1810	William Bainbridge.
German flute, clarionet, and hautboy - - - - -	3314	12th March 1810	Thomas Scott.
Flute, or musical instrument with improved keys; which keys are also applicable to various other wind instruments.	3349	19th June 1810	Malcolm M'Gregor.
Making military fifes of substances never before used for that purpose.	3363	1st Oct. 1810	George Miller.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MUSICAL INSTRUMENTS—continued.</b>			
Clarionets and German flutes . . . . .	3586	16th July 1812	Tebaldo Monzani.
Certain improvements on the German flute; applicable also to the clarionet and bassoon.	3797	1st April 1814	James Wood.
Double and single flageolet, or English flute . . .	4899	4th Oct. 1819	William Bainbridge.
Formation and position of the long keys B natural and C sharp, used on the clarionet, for the more easily fingering the same.	4423	18th Dec. 1819	James Wood.
Clarionet [ <i>arrangement of the keys</i> ]. . . . .	4890	19th Jan. 1824	William Gutteridge.
Construction of flutes . . . . .	6333	27th Nov. 1832	{ George Rudall. John Mitchell Rose.
Flutes . . . . .	9229	18th Jan. 1842	Cornelius Ward.
Construction of flutes and other wind musical instruments.	10,553	13th March 1845	Abel Siccama.
Flutes, clarionets, and other similar wind instruments.	11,853	6th Sept. 1847	John Mitchell Rose.
Flutes - . . . . .	12,378	16th Dec. 1848	John Clinton.
Flutes, clarionets, hautboys, and bassoons . . .	12,956	7th March 1850	Richard Carte.
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<b>V.—Trumpets, Drums, and Tambourines.</b>			
Coach trumpet . . . . .	1711	10th Nov. 1789	George Lyde.
Carriage trumpet . . . . .	1909	10th Oct. 1792	John Munns.
Signal trumpet . . . . .	2288	23rd Jan. 1799	William Fitzgerald.
Tambourine - . . . . .	2295	19th Feb. 1799	Joseph Dale.
Bugle horn - . . . . .	3394	5th May 1810	Joseph Halliday.
Trumpet, French-horn, and bugle . . . . .	3505	2nd Nov. 1811	William Close.
Transverse spring-slides for trumpets, trombones, French-horns, bugles, and every other musical instrument of the like nature.	5013	7th Oct. 1824	John Shaw.
Drums . . . . .	7505	9th Dec. 1837	Cornelius Ward.
Arrangement and construction of wind musical instruments [ <i>trumpets</i> ].	7892	1st Dec. 1838	John Shaw.
<hr/>			
<b>VI.—Performance on Musical Instruments.</b>			
Instrument to serve as a standard for regulating the time in musical performances.	2267	13th Nov. 1798	Anthony George Eckhardt.
Machine to turn over the leaves of music-books, by means of a pedal.	2388	10th April 1800	John Antes.
Facilitating the learning of music . . . . .	3124	9th April 1808	Charles Dibden.
Apparatus to facilitate the acquirements of proper execution on the pianoforte.	3806	28th April 1814	John Bernard Logier.
Musical time-keeper, or "metronome" . . . . .	3966	5th Dec. 1815	John Malzel.
Instrument with or without pedal work, for turning the leaves of music-books.	4314	21st Nov. 1818	John Chancellor.
Instrument to assist in the attainment of proper performance on the pianoforte or other keyed instrument.	4508	1st Nov. 1820	Peter Hawker.
Mechanical volti-subitos, to assist musical performers in turning over quickly the leaves of music-books.	5731	10th Dec. 1828	Abraham Louis.
Instrument to measure, beat, and give the accents, in all the moods of time and in any velocity, applicable to teaching of music.	6153	13th Aug. 1831	Alexander Whiting Gillet.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>MUSICAL INSTRUMENTS—continued.</b>			
Instrument to measure, beat, and give the accents, in all moods of time and in any velocity, applicable to the teaching of music.	6279	28th June 1832	Harriet Grant Gillet.
Apparatus for turning over the leaves of music and other books.	6502	26th Feb. 1834	John Ramsey.
Mechanism for registering the notes played on the keys of pianofortes, organs, or such like instruments.	7058	12th April 1836	Miles Berry.
Apparatus for exercising the fingers of the human hand, to facilitate their use in playing the pianoforte and other instruments.	9559	15th Dec. 1842	Guillaume Simon Richault.
Apparatus for facilitating the playing on stringed musical instruments.	10,719	12th June 1845	Robert Brooks, jun.
Apparatus to facilitate the action of the fingers on the keys of pianofortes.	11,681	29th April 1847	John Spear.
Means of playing on musical instruments [ <i>by means of electricity</i> ].	11,886	7th Oct. 1847	Alexander Bain.
Machinery partly applicable to playing certain musical instruments.	12,229	5th Aug. 1848	Duncan Mackenzie.
Machinery partly applicable to playing certain musical instruments.	12,421	16th Jan. 1849	William Martin.
<b>VII.—Tuning.</b>			
Tuning and keeping in tune harpsichords, spinnets, pianofortes, &c.	989	2nd May 1771	Richard Wakefield.
Instrument for tuning harpsichords, pianofortes, spinnets, organs, guitars, and various other musical instruments.	1583	15th Jan. 1787	Wardhaugh Thompson.
Tuning musical instruments - - - - -	1604	15th Aug. 1788	Charles Claggett.
Apparatus for keeping musical instruments in tune -	2430	31st July 1800	Peter Litherland.
Tuning and keeping in tune musical stringed instruments in general - - - - -	2612	5th June 1801	{ Egerton Smith. Thomas Todd.
Keeping musical instruments in tune, and preserving the strings from breaking.	2694	24th March 1802	Peter Litherland.
Mode of keeping in tune pianofortes, harpsichords, spinnets, and other stringed instruments.	2811	23rd Jan. 1805	Edward Thunder.
Tuning pedal harps, violins, and other stringed instruments.	2838	5th April 1805	Richard Jubb.
Key for regulating the tone of flutes or other musical instruments capable of the improvements, by causing the bore to lengthen or contract at pleasure.	3159	9th Aug. 1808	Charles Gostling Townley.

[ *Second Edition.* ]

SUBJECT-MATTER INDEX

(*Made from Titles only*)

OF

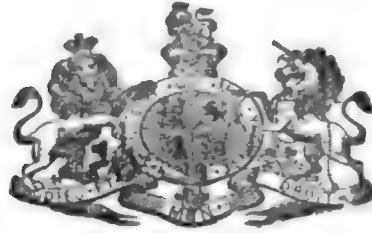
PATENTS OF INVENTION,

FROM MARCH 2, 1617 (14 JAMES I.) TO OCTOBER 1, 1852 (16 VICTORIÆ).

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PART II.—(N. to W.)

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# SUBJECT-MATTER INDEX

*(Made from Titles only)*

OF

# PATENTS OF INVENTION,

FROM MARCH 2, 1617 (14 JAMES I.) TO OCTOBER 1, 1852  
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*Gt. Brit. Patent Office*  
**PART II.—(N. to W.)**

Printed and Published by Order of the Honourable the Commissioners of Patents,

UNDER THE

**ACT of 15 & 16 VICTORIÆ, Cap. 83. Sec. XXXII.**

**BY BENNET WOODCROFT,**

SUPERINTENDENT OF SPECIFICATIONS, INDEXES, &c.

**LONDON:**

PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,  
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.

PUBLISHED AT THE GREAT SEAL PATENT OFFICE,  
SOUTHAMPTON BUILDINGS, HOLBORN.

**1857.**

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# SUBJECT-MATTER INDEX

## OF

# PATENTS OF INVENTION.

### PART II.

[Nai]

[Nai]

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>N.</b>			
<b>NAILS, BOLTS, NUTS, AND SCREWS.</b>			
<b>I.—Nails, Spikes, Rods, Bolts, and Blanks.</b>			
Engine worked by water for cutting iron into small bars or rods for making nails.	10	11th Dec. 1618	Clement Dawbeney.
Machine for making round rods of iron and steel -	854	31st July 1766	John Purnell.
Making and casting coffin nails and tacks out from pig-iron.	938	7th Nov. 1769	Joseph Ashton.
Casting and making nails, viz., sheathing, rose, sharp, trunk, hob, scupper, clout, flemish, and sparables, from pig-iron.	992	25th June 1771	Joseph Ashton.
Compound metal capable of being forged hot or cold, for making bolts, nails, and for other purposes.	1240	10th Dec. 1779	James Keir.
Cutting or dividing pieces of metal, and giving them a cylindrical or other uniform shape through their whole length, or making them taper regularly, for the formation of bars, bolts, rods, wire, spade and shovel bits.	1408	17th Dec. 1783	William Playfair.
Machinery for making nails - - - - -	1762	17th July 1790	Thomas Clifford.
Machinery put in motion by the force of animals, water, wind, or steam, for making nails and spikes of iron, copper, and other metals.	1768	28th July 1790	William Finch.
Manufacturing nails - - - - -	1785	4th Dec. 1790	Thomas Clifford.
Cutting and heading nails by two several engines -	2133	19th Aug. 1796	Samuel Guppy.
Machine for making horse-shoe nails, brads, and several articles of iron and other metals.	2161	31st Jan. 1797	George Coates.
Machine for making nails, bolts, and rods - -	2482	17th Feb. 1801	John Bennoch.
Making horse-shoe nails - - - - -	2517	20th June 1801	John Spencer.
Machine for forming iron into shanks for nails -	2739	8th Nov. 1803	Booth Hodgetts.
Machines for cutting, heading, and finishing nails ; working the same.	2800	19th Dec. 1804	Samuel Guppy.
Manufacturing blanks or moulds for nails - -	2829	9th March 1805	William Bell.
Method and processes in the manufacture of nails -	3137	28th May 1808	{ Joseph Willmore. John Fouks.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAILS, &amp;c.—continued.</b>			
Machinery for cutting and heading nails and brads made from strips or plates of iron, copper, or other metal capable of being rolled into plates.	3365	26th July 1810	Joseph Dyer.
Making nails of wrought iron - - - -	3433	11th April 1811	William Finch.
Machinery for cutting and heading nails from strips or plates of iron, copper, or other metal capable of being rolled into plates.	3543	4th March 1812	Joseph Cheseborough Dyer.
Machinery for manufacturing nails - - -	3786	1st April 1814	Joseph Cheseborough Dyer.
Machine for making nails and for working all metallic substances.	4060	15th Aug. 1816	Anthony Gilchrist.
Making nails and brads - - - -	4257	7th May 1818	Thomas Todd.
Machinery for making nails and spikes - - -	4258	7th May 1818	William Church.
Machinery for making wood-screw forgings - -	4303	10th Nov. 1818	Edward Woolley.
Formation of bolts and nails for ship and other fastenings.	4554	1st May 1821	Alexander Law.
Form of bolts and nails for ship and other fastenings	4571	17th July 1821	Alexander Law.
Form of nails for securing copper and other sheathing on ships, and for other purposes - - - }	4977	9th Dec. 1823	{ George Minshaw Glas- cott. Tobias Michell.
Manufacturing nails and other articles from iron or steel.	4932	7th April 1824	Joseph Spencer.
Engine for cutting nails, sprigs, and sparables -	5286	8th Nov. 1825	{ James Wilks. John Ecroyd.
Machinery for cutting sprigs, brads, and nails -	5578	4th Dec. 1827	{ Daniel Ledsam. William Jones.
Machinery for making nails and brads - - -	5589	18th Dec. 1827	Thomas Tyndall.
Making nails - - - - -	5717	16th Oct. 1828	Edward Hancorne.
Making bolts - - - - -	5929	24th April 1830	Samuel Brown.
Manufacturing nails or tacks for ornamenting boxes and articles of furniture [ <i>by soldering the spike into the head</i> ].	6132	13th July 1831	Richard Prosser.
Machinery for making nails - - - - -	6145	27th July 1831	William Church.
Machinery for making rivets and nails - - -	6200	22nd Dec. 1831	{ Daniel Ledsam. William Jones.
Machinery for making nails - - - - -	6232	25th Feb. 1832	William Church.
Machinery for making nails of iron, copper, and other metals.	6234	1st March 1832	John Joyce.
Machinery for making nails - - - - -	6315	29th Sept. 1832	John Joyce.
Machinery for making nails - - - - -	6401	28th March 1833	John Joyce.
Machinery for making nails - - - - -	6493	19th Oct. 1833	John Joyce.
Machinery for shaping metal into bolts, rivets, nails, and other articles;—partly applicable to other purposes.	6553	19th Feb. 1834	Miles Berry.
Machinery for manufacturing nails - - -	6568	27th Feb. 1834	Thomas John Fuller.
Shape of nails, spikes, and bolts - - - -	6571	6th March 1834	Thomas John Fuller.
Machinery for making nails - - - - -	6575	18th March 1834	James Jamieson Cordes.
Machinery for making rivets and screw blanks or bolts.	6576	18th March 1834	James Jamieson Cordes.
Machinery for making nails - - - - -	6577	18th March 1834	Samuel Slocum.
Machinery for making bolts and rivets - - -	6599	24th April 1834	John Bethell.
Machinery for making nails - - - - -	6686	8th Oct. 1834	James Jamieson Cordes.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAILS, &amp;c.—continued.</b>			
Machinery for making rivets and screw blanks or bolts.	6667	8th Oct. 1834	James Jamieson Cordes.
Machinery for making nails - - - - -	6708	18th Feb. 1835	Samuel Slocum.
Making nails - - - - -	6775	25th Feb. 1835	Richard Prosser.
Machinery for making rivets, screw blanks, and bolts	6956	16th Dec. 1835	Robert Griffiths.
Machinery applicable to making nails, and to other purposes.	7143	7th July 1836	William Southwood Stocker.
Manufacturing rivets, screw blanks, and other articles - - - - -	7237	29th Nov. 1836	{ Alexander Stocker. Henry Downing.
Machinery for manufacturing pins, bolts, nails, and rivets; applicable to various purposes.	7623	24th April 1838	Francis Pope.
Forming moulds for casting nails, tacks, and other articles.	7889	13th Nov. 1838	John Holmes.
Increasing the security, tenacity, and strength of iron and steel rods.	7844	19th Jan. 1839	Richard Dugdale.
Machinery for manufacturing nails - - - - -	8001	14th March 1839	Elisha Haydon Collier.
Machinery for the manufacture of screw bolts -	8048	23rd April 1839	{ William Edmondson. James Edmondson.
Machinery for making nails, &c. - - - - -	8064	8th May 1839	Richard Prosser.
Making nails, bolts, and spikes - - - - -	8269	12th Nov. 1839	Moses Poole.
Manufacture of nails, bolts, and rivets - - - -	8438	19th March 1840	John Jackson.
Machinery for making nails and rivets - - - -	8531	2nd June 1840	William Southwood Stocker.
Forging bolts, spikes, and nails - - - - -	8822	30th Jan. 1841	Ezra Jenks Coates.
Apparatus for forging, drawing, moulding, or forming spindles, rollers, bolts, and various other like articles in metal.	8835	8th Feb. 1841	William Ryder.
Making nails and brads - - - - -	8946	4th May 1841	Miles Berry.
Machinery for making pin nails - - - - -	9038	28th July 1841	William Newton.
Manufacture of nails - - - - -	9155	11th Nov. 1841	John Onions.
Bolts for building and other purposes - - - -	9210	24th Dec. 1841	{ William Robinson Kettle. Benjamin Wakefield. William Crosher.
Apparatus for making nails - - - - -	9357	23rd May 1842	William Tudor Mabley.
Machinery for making screw blanks and rivets -	9463	8th Sept. 1842	William Edward Newton.
Boilers [ <i>riret for fastening boiler plates</i> ] - -	9516	8th Nov. 1842	Henrik Zander.
Mixture of metals applicable for the manufacture of bolts, nails, or other fastenings.	10,056	17th Feb. 1844	John Lionel Hood.
Forging bolts, spikes, and nails - - - - -	10,065	21st Feb. 1844	Ezra Jenks Coates.
Machinery for making nails - - - - -	10,091	6th March 1844	Bernard Peard Walker.
Manufacture of horse-shoe nails - - - - -	10,271	24th July 1844	Joseph Hall.
Manufacture of cut nails - - - - -	10,323	19th Sept. 1844	Antoine Vieyres.
Machinery to be employed in manufacturing nails and rivets.	10,324	19th Sept. 1844	William Newton.
Manufacture of horse-shoe nails - - - - -	10,403	25th Nov. 1844	Ebenezer Dorr.
Manufacture of bolts, railway pins, spikes, and rivets	10,457	11th Jan. 1845	Robert Griffiths.
Manufacture of nails; machinery for the purpose -	10,528	11th Sept. 1845	Elisha Haydon Collier.
Nail-making machinery - - - - -	11,098	18th Feb. 1846	Joseph Clinton Robertson.
Manufacture of horse-shoe nails - - - - -	11,131	11th March 1846	Thomas Vaux.
Machinery for the manufacture of nails, screw blanks, rivets, bolts, and pins - - - - -	11,620	10th March 1847	{ Louis Nicolas de Meck- enheim.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAILS, &amp;c.—continued.</b>			
Machinery for the manufacture of rivets, railway or other pins, bolts, nuts, and spikes.	11,741	12th June 1847	James Johnson.
Machinery for making nails - - - - -	12,011	5th Jan. 1848	Charles Lambert.
Machinery for making nails - - - - -	12,321	7th Nov. 1848	Moses Poole.
Machinery for manufacturing nails - - - - -	12,629	5th June 1849	William Goose.
Manufacture of bolts, spikes, and nails - - - - -	13,069	1st June 1850	Ezra Jenks Coates.
Manufacture of nails - - - - -	13,134	12th June 1850	John Manby.
Machinery for manufacturing bolts, rivets, and nails	13,187	23rd July 1850	{ Leonard Bower. Thomas Fortune.
Machinery for manufacturing rivets, bolts, and screw blanks.	13,247	5th Sept. 1850	Frederick Woodbridge.
Manufacture of nails, tacks, and other similar articles	13,654	3rd June 1851	Cornelius Alfred Jaquin.
Manufacture of bolts from materials not hitherto used for that purpose [ <i>this part of the patent was disclaimed</i> ].	13,773	16th Oct. 1851	William Onions.
Machinery to be used in the manufacture of nails, rivets, bolts, or pins, and screw blanks - - - }	13,915	24th Jan. 1852	{ John Henks. Eugene Nicolle.
<b>II.—Screws, Nuts, and Screw-keys.</b>			
Cutting screws of iron called wood screws - - -	751	14th May 1760	{ Job Wyatt. William Wyatt.
Making screws; machines for dividing instruments from the said screws [ <i>watch screws</i> ] - - - }	1179	5th Feb. 1773	{ William Harrison. Peter Atherton.
Machine for making screws, nuts, and boxes for screws.	1691	7th July 1789	Thomas Todd.
Machine to mould patterns for casting wood, bed, and other screws, of cast iron, brass, or other metallic compositions.	2379	28th Feb. 1800	Richard Maullin.
Machine for making screws, and the working all metallic substances.	4080	15th Aug. 1816	Anthony Gilchrist.
Making screws of iron, brass, steel or other metals, for use in woodwork.	4117	13th May 1817	James Gerard Colbert.
Making screws - - - - -	4257	7th May 1818	Thomas Todd.
Machinery for making screws of iron, copper, brass, or other metal.	4258	7th May 1818	William Church.
Combination and arrangement of machinery for making metal screws.	5473	17th March 1827	Lemuel Wellman Wright.
Machinery for making screws - - - - -	5589	18th Dec. 1827	Thomas Tyndall.
Machinery for making screws - - - - -	5703	18th Sept. 1828	Lemuel Wellman Wright.
Machinery for making wood screws - - - - -	6200	22nd Dec. 1831	{ Daniel Ledsam. William Jones.
Machinery for cutting screws - - - - -	6566	27th Feb. 1834	Joseph Whitworth.
Machinery for making metal screws - - - - -	6599	24th April 1834	John Bethell.
Screws used in fastening the mouths of mounted inkstands, perfume, liqueur, and medicine bottles; also the mouths of jars and tumblers used for paste, salve, powders, preserves, and other purposes.	7026	8th March 1836	George Lawrence.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAILS, &amp;c.—continued.</b>			
Machinery for making metal screws - - -	7203	6th Oct. 1836	Miles Berry.
Manufacture of burs or nuts for screws - - -	7271	11th Jan. 1837	{ Robert Griffiths. Samuel Evers.
Machinery for making metal screws - - -	7291	28th Jan. 1837	Miles Berry.
Manufacture of wood screws - - - - -	7862	8th Nov. 1838	{ Thomas Mayos Woodyatt. Samuel Harrison.
Machinery for making screws - - - - -	7953	29th Jan. 1839	John Hillard.
Manufacture of screws for wood, in iron, brass, copper, or mixed metal ;—" wood screws."	8005	18th March 1839	Thomas Henry Ryland.
Machinery for manufacture of wood screws - -	8048	23rd April 1839	{ William Edmondson. James Edmondson.
Machinery for making screws - - - - -	8084	8th May 1839	Richard Prosser.
Screws or pins for vices and presses - - -	8225	26th Sept. 1839	Samuel Wilks.
Machinery for manufacturing screws - - -	8246	24th Oct. 1839	William Newton.
Manufacture of nuts - - - - -	8438	19th March 1840	John Jackson.
Construction of screw-wrenchers and spanners, for screwing and unscrewing nuts and bolts.	8764	31st Dec. 1840	Joseph Stubs.
Machinery for making screws - - - - -	9042	4th Aug. 1841	James Warren.
Manufacture of screws - - - - -	9155	11th Nov. 1841	John Onions.
Machinery for making screws - - - - -	9463	8th Sept. 1842	William Edward Newton.
Machinery to be employed in manufacturing screws	10,324	19th Sept. 1844	William Newton.
Machinery for cutting metals and other substances [screw cutting].	10,369	29th Oct. 1844	Thomas Fuller.
Machinery for manufacturing screws - - -	10,839	26th Sept. 1845	Alfred Vincent Newton.
Machinery for manufacturing screws - - -	11,196	5th May 1846	Alfred Vincent Newton.
Manufacture of cast screws [forming moulds] - -	11,383	31st Aug. 1846	James Warren.
Manufacture of screws - - - - -	11,791	12th July 1847	William Edward Newton.
"Screw fastenings" for swivels, bag fastenings, revolving furniture, and connections of pipes.	12,392	23rd Dec. 1848	Moses Poole.
Machinery for manufacturing screws - - -	13,187	23rd July 1850	{ Leonard Bower. Thomas Fortune.
Manufacturing screws - - - - -	13,557	15th March 1851	Richard Archibald Broo- THILL.
Manufacture of screws and other similar articles -	13,654	3rd June 1851	Cornelius Alfred Jaquin.
Manufacture of nuts by application of materials not hitherto used for the purpose.	13,773	16th Oct. 1851	William Onions.
Manufacturing wood screws; machinery used therein; assorting screws and other articles of various sizes.	14,084	22nd April 1852	Alfred Vincent Newton.
Machinery or apparatus for cutting screws - -	14,213	6th July 1852	John Ramsden.
Manufacture of screws and screw-keys - - -	14,298	18th Sept. 1852	{ James Warren. Bernard Peard Walker.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION (PART I.),—SHIP-BUILDING, RIGGING, AND WORKING.</b>			
<b>I.—Building, Fitting, and Equipping.</b>			
<b>1. (Sailing and Steam Vessels.)</b>			
Making boats - - - - -	8	17th Jan. 1618	{ David Ramsey. Thomas Wildgoose.
Making vessels that will sail in a straight line in all winds.	157	18th Feb. 1668	Peter Chamberlaine.
Preserving ships or vessels from foundering at sea } or in harbour from accident or any other cause - }	352	20th Sept. 1697	{ George Oldmer. Andrew Prune.
Vessel which by the construction thereof, can bring fish, wheresoever caught, alive and in health.	419	21st May 1718	Sir Richard Steele, Knt.
Bending planks for ship-building - - - - -	427	14th April 1720	John Cumberland.
Pole-mast vessel for the more easy catching, preserving, and stowing fish.	518	9th May 1730	William Holmes.
Machine for retarding a ship driving on a lee shore where there is no anchorage, or on being forced back in her voyage by contrary winds.	534	18th Oct. 1731	George Reynoldson.
New form wherein to build the body or lower works of a ship or other marine vessel.	554	22nd May 1736	John Watts.
Keels for taking ballast from ships - - - - -	785	3rd March 1763	Charles Burne.
Machine to be used in case of a ship being in distress on a lee shore where a boat cannot live, and for other purposes.	879	4th July 1767	John Winn.
Making ships' planks tough and flexible - - -	910	9th Dec. 1768	Humphry Jackson.
Constructing ships so as to secure them from fire -	1087	1st April 1773	David Hartley.
Making boats and small vessels for sailing or rowing, and which will neither overset nor sink.	1502	2nd Nov. 1785	Lionel Lukin.
Instrument or method of making a vessel sail faster and keep a truer course without upsetting, and capable of being veered about from opposite tacks with more speed and in a less space, having the upper parts of the vessel made and the sail hung so as also to assist in fast sailing; the rudder likewise being sunk deep in the water, thereby increases the managesableness of the vessel, which, having the part of its body which is under the water diminished, also affords an easier landing than can be effected with boats in common use on the sea coast.	1716	12th Dec. 1789	John Lewis De Lolme.
Constructing ships and vessels - - - - -	1733	13th March 1790	Charles Earl Stanhope.
New method to resist or sustain the weight or pressure of solids and fluids in any lateral or anti-vertical direction [ <i>applying arches in ship-building</i> ].	1793	24th Feb. 1791	Isaac Ashton.
Combining timbers for naval architecture, and all large works composed of wood.	2068	15th Oct. 1795	Christopher Wilson.
Construction of a vessel which will draw less water than any other of the same dimensions, and which cannot founder at sea [ <i>flat-bottomed vessel moved by wheels</i> ].	2108	3rd May 1796	Patrick Miller.
Method of causing ships, vessels, barges, boats, and craft of all sizes, which navigate either seas, rivers, or canals, to be built at prices considerably below what are given for them as built in the present mode, and for rendering the rudders thereof in some cases more effectual.	2206	23rd Dec. 1767	William Milton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Naval architecture - - - - -	2455	12th Dec. 1800	{ William Playfair. Nicholas Le Farre.
Building ships or vessels - - - - -	2621	20th May 1802	John Whitley Boswell.
Securing ships' beams to their sides - - - - -	2646	20th Sept. 1802	Joseph Brindley.
Strengthening ships or floating-vessels - - - - -	2723	27th July 1803	James Stuard.
Naval architecture - - - - -	2964	30th Aug. 1806	Christopher Wilson.
Form and construction of ships, sloops, barges, or other vessels.	2965	6th Sept. 1806	Robert Newman.
Form, construction, and manner of building and fitting out ships and vessels for the purpose of navigation, so as to counteract the danger arising from submarine bombs, carcasses, or explosions.	3011	16th Feb. 1807	Charles Earl Stanhope.
Inventions calculated to improve naval architecture and navigation, and to contribute to the comfort and better subsistence of mariners;—applicable to other purposes - - - - -	3231	29th April 1809	{ Richard Trevithick. Robert Dickinson.
Boat and apparatus whereby heavy burdens can be conveyed on shallow water, and on rivers wherein shoals and other difficulties impede navigation;—applicable to other purposes.	3351	19th June 1810	John Lindsay.
Apparatus for defence of ships and vessels against being boarded.	3447	9th May 1811	Griffin Hawkins.
Construction, use, and mode of navigating ships or vessels for marine and inland navigation.	3627	26th July 1814	William Doncaster.
Construction and fastening of frame timbers or binds of ships or vessels, whether building or under repair.	3850	7th Nov. 1814	John Walters.
Safety of boats or other vessels - - - - -	3932	22nd June 1815	Robert Dickinson.
Constructing ships and other vessels - - - - -	4088	10th Dec. 1816	Richard Wright.
Constructing ships, boats, and other vessels - - - - -	4240	8th April 1818	William Annesley.
Construction of vessels - - - - -	4529	19th Jan. 1821	Charles Phillips.
Construction of ships, boats, and other vessels - - - - -	4549	5th April 1821	William Annesley.
Construction of vessels or craft [ <i>of iron or copper</i> ] - - - - -	4568	14th July 1821	Robert Dickinson.
Vessels - - - - -	4612	10th Nov. 1821	William Penrose.
Construction of certain descriptions of boats and barges [ <i>having wooden bottoms</i> ].	4624	5th Dec. 1821	Robert Bill.
Construction of steam-vessels - - - - -	4629	20th Dec. 1821	John Gladstone.
Steam-packets and other vessels;—partly applicable to other naval and marine purposes [ <i>boxing in the paddle-wheels</i> ].	4639	14th Jan. 1822	David Gordon.
Construction and building of ships, boats, barges, and other vessels.	4717	18th Oct. 1822	Stephen Brindley.
Constructing the bottoms of merchant ships, and placing the pumps so as to prevent damage to the cargo by the bilge water.	4751	16th Jan. 1823	James Taylor.
Construction of vessels so as to enable them to sail with greater velocity [ <i>adapting moveable iron keels</i> ].	4806	26th June 1823	Moncrieffe Willoughby.
Air-chamber for preventing ships from sinking - - - - -	5050	7th Dec. 1824	Robert Dickinson.
Building or constructing ships so as to present an arch in every direction.	5198	28th June 1825	David Redmund.
Building or constructing ships or other vessels - - - - -	5233	10th Aug. 1825	{ George Charleton. William Walker.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Rendering ships and other vessels (sailing or propelled by steam) safer from leakage, bilging, or letting in water [ <i>by a water-tight lower deck</i> ].	5329	7th Feb. 1826	Hugh Evans.
Building ships or vessels - - - - -	5395	24th July 1826	William Parsons.
Constructing or building ships and other vessels; —applicable to various purposes [ <i>fishing-vessels with wells</i> ].	5433	20th Dec. 1826	Charles Hardeben.
Ships' scuppers;—applicable to other purposes -	5872	17th Nov. 1829	John William Dodgson.
Construction and fitting up of boats of various descriptions.	5932	24th April 1830	Thomas Cook.
Construction of boats and other vessels [ <i>by corrugated plates of metal instead of timber</i> ].	6000	21st Sept. 1830	William Church.
Constructing boats or vessels for carrying machinery for propelling the same.	6063	22nd Jan. 1831	Andrew Smith.
Engines and other machinery used in the construction of steam-vessels;—applicable to other purposes - - - - -	6388	21st Feb. 1833	{ Luke Hebert. James Don.
Ships' channels - - - - -	6723	25th Nov. 1834	James Couch.
Apparatus for conveying goods and passengers by water.	6791	16th March 1835	William Church.
Construction of vessels for navigation - - -	6892	26th Aug. 1835	John Lane Higgins.
Steamboats, ships, or other vessels;—partly applicable to other purposes.	7297	6th Feb. 1837	John Gemmell.
Building ships, steam-vessels, and boats, also canal and river barges and lighters.	7406	19th July 1837	John Load Drake.
Construction and apparatus of steamboats or vessels for war or commerce.	7612	10th April 1838	David Redmund.
Applying and combining timber and other materials used in the construction of ships or vessels, masts, beams, piers, bridges, and for other purposes.	7814	20th Sept. 1838	William Day.
Vessels to be propelled by steam or other power -	7870	13th Nov. 1838	George Smith.
Iron steamboats - - - - -	8044	23rd April 1839	David Napier.
"Safety decks" for saving human life in cases of disasters at sea.	8077	22nd May 1839	Lieut. William Oldmixon.
Construction of ships, applicable to all sea-going vessels; construction of boats and other vessels for use on canals and for inland navigation.	8104	12th June 1839	William Watson.
Building ships and other vessels - - - - -	8186	5th Aug. 1839	Jonathan Fell.
Improvements in shipping generally, and steam-vessels in particular, some of these improvements being individually novel, and some the result of novel application or combination of parts already known.	8236	10th Oct. 1839	John Barnett Humphreys.
Construction of iron ships, boats, and other vessels; means for preventing the same from foundering.	8279	23rd Nov. 1839	William Daubney Holmes.
Steamboats and vessels [ <i>application of a shield to protect the paddle-wheels from the action of the waves</i> ].	8377	8th Feb. 1840	Joseph Needham Tayler.
Manufacture of iron knees for ships or vessels -	8523	30th May 1840	{ James Allison. Roger Lumsden.
Naval architecture; apparatus connected therewith for affording security from shipwreck.	8614	3rd Sept. 1840	William Daubney Holmes.
Steam-vessels - - - - -	8671	2nd Nov. 1840	Henry Wimshurst.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Ship-building, applicable to steamboats and boats and vessels of all descriptions.	8871	8th March 1841	Thomas Joseph Ditchburn.
Construction of ships or other vessels - - -	9179	16th Dec. 1841	Francis Marx.
Manufacture of keel-plates for vessels - - -	9365	24th May 1842	James Boydell.
Constructing certain parts of ships and vessels so as to arrest fire and to regulate temperature.	9388	11th June 1842	Arthur Howe Holdsworth.
Construction of metal ships, boats, and other vessels; preparation of metal plates for the purpose.	9409	7th July 1842	William Fairbairn.
Improvements applicable to ships and boats, and to other purposes where locomotion is required.	9427	23rd July 1842	Alexander Johnston.
Marine vessels - - - - -	9702	20th April 1843	John George Bodmer.
Constructing boats and other vessels - - -	9749	30th May 1843	William Edward Newton.
Building metal ships and other vessels - - -	9779	15th June 1843	Thomas Richard Guppy.
Construction of steam and other vessels - - -	9830	10th July 1843	John Laird.
Machinery or apparatus for affording additional or artificial buoyancy to sea-going and other vessels, or for lessening their draught of water; also applicable to raising vessels or other heavy bodies, and for securing or supporting the same.	9884	14th Aug. 1843	John Wood.
Construction of vessels for navigation, designed to prevent the loss of life in case of shipwreck or accident at sea.	9878	4th Sept. 1843	George Catlin.
Construction of vessels for conveying goods or passengers on water.	10,024	25th Jan. 1844	Henry Davies.
Combination of materials to be used as a substitute for canvas and other surfaces employed as grounds for painting [ <i>applying a mixture of india-rubber with other materials to ship and boat building</i> ].	10,054	14th Feb. 1844	Elijah Galloway.
Improvements applicable to steam-vessels and other purposes.	10,112	19th March 1844	Hugh Inglis.
Building or constructing iron and other vessels for } navigation - - - - -	10,143	15th April 1844	{ James Kennedy. Thomas Vernon.
Constructing vessels - - - - -	10,205	30th May 1844	Charles Anthony Deane.
Marine vessels - - - - -	10,243	3rd July 1844	John George Bodmer.
Construction of boats for the preservation of life and property; apparatus applicable thereto.	10,249	3rd July 1844	Willoughby Theobald Monzani.
Welding sheet iron for ship-building - - -	10,283	1st Aug. 1844	Benjamin Tucker Stratton.
Construction and fitting or equipping of ships or vessels.	10,493	23rd Jan. 1845	Peter Borrie.
Mode of building hulls and decks of ships, boats, and other vessels made of iron or other suitable metal.	10,587	2nd April 1845	Otis Tufts.
Construction of metallic boats and other vessels having curved surfaces.	10,680	24th May 1845	Julius Adolph Detmold.
Constructing vessels; machinery connected therewith.	10,819	22nd Aug. 1845	Thomas Oxley.
Ports, and apparatus for opening and closing ports of ships or other vessels.	10,861	9th Oct. 1845	Thomas Wood Gray.
Building of ships and other vessels - - -	10,946	17th Nov. 1845	James Boydell.
Construction of vessels - - - - -	11,044	20th Jan. 1846	Peter Taylor.
Construction of ships and other vessels; apparatus to be attached to the same.	11,053	20th Jan. 1846	John Spenceley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Constructing vessels to be used in combination with machinery for removing sand-banks and other obstructions to navigation;—parts of which machinery or apparatus may be used on railways, or may be adapted and applied to carriages on common roads.	11,151	25th March 1846	Joseph Needham Tayler.
Steam-engines [ <i>taking the thrust from a screw-propeller shaft</i> ].	11,167	15th April 1846	William Tutin Haycraft.
Steam-vessels - - - - -	11,231	26th May 1846	James Montgomery.
Machinery for cutting and shaping wood for ship-building.	11,235	2nd June 1846	John Webster Cochran.
Manufacture of iron for building ships and other vessels; instruments, machinery, and apparatus to be used in constructing the same [ <i>portable drilling-machine for drilling holes in iron plates</i> ].	11,288	14th July 1846	Lawrence Hill.
Constructing and arming ships or vessels - - -	11,295	14th July 1846	Sir Samuel Brown, Knt.
Apparatus for propelling, exhausting, and compressing air and æriform bodies [ <i>employing an air pump in the construction of vessels</i> ].	11,303	23rd July 1846	Peter Claussen.
Ships or vessels, and securing the same from floatal damage.	11,335	15th Aug. 1846	John Buchanan.
Constructing boats, ships, and other vessels of wood	11,341	17th Aug. 1846	Joseph Clinton Robertson.
Construction of ships or other vessels; machinery for manufacturing parts of the same.	11,648	6th April 1847	Benjamin Tucker Stratton.
Steam-vessels - - - - -	11,652	8th April 1847	David Napier.
Construction of ships or vessels - - - - -	11,684	4th May 1847	Conrad Haverkam Greenhow.
Construction of steam-vessels - - - - -	11,687	4th May 1847	Gardner Stow.
Constructing or fitting the interior parts of ships and other vessels to facilitate the delivery of the cargoes or contents thereof.	11,782	3rd July 1847	John Ray.
Ships and other vessels - - - - -	12,057	8th Feb. 1848	Jean Napoléon Zerman.
Building ships and other vessels - - - - -	12,189	27th April 1848	James K. Howe.
Apparatus to be applied to timber-loaded and other vessels laden with materials the specific gravity of which is lighter than water, preventing the necessity of abandoning them at sea, by ridding them of the superincumbent water, and enabling them thereby to carry sail.	12,215	18th July 1848	Charles Purnell.
Application of glass and glass surfaces to nautical, architectural, and other purposes [ <i>applying glass terminals to mast-heads of vessels, as non-conductors of electricity</i> ].	12,220	7th Aug. 1848	David Newton.
Means and apparatus for effecting the conveyance of goods and passengers by water.	12,269	15th Sept. 1848	William Sager.
Construction of boats - - - - -	12,344	29th Nov. 1848	{ John Lane. John Taylor.
Constructing vessels - - - - -	12,452	6th Feb. 1849	John Browne.
Constructing ships or other vessels - - - - -	12,625	31st May 1849	{ John Dugdale. Edward Birch.
Deck lights - - - - -	12,673	26th June 1849	Thomas Wood Gray.
Building ships, boats, and other vessels - - -	12,678	27th June 1849	John Thomas Forster.
Naval architecture - - - - -	12,803	12th Oct. 1849	John Christophers.
Construction of vessels to be worked or propelled by means of improvements in rotatory engines or by other motive-power.	12,810	12th Oct. 1849	Cornelius Bonell.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Construction of ships and other vessels navigated on water.	12,824	2nd Nov. 1849	John Jordan.
Conveyances on water - - - - -	12,826	2nd Nov. 1849	Lucien Vidie.
Construction of metallic ships or vessels - -	12,934	19th Jan. 1850	Macgregor Laird.
Propelling [ <i>construction of ships to adapt them for receiving propellers</i> ].	12,978	21st Feb. 1850	Alexander Hediard.
Ships' fittings - - - - -	13,016	23rd March 1850	Joshua Siddeley, junior.
Gearing vessels - - - - -	13,095	1st June 1850	John Tucker.
Construction of ships' magazines - - - -	13,233	22nd Aug. 1850	William Edward Newton.
Construction of ships or vessels [ <i>magazines</i> ] - -	13,235	22nd Aug. 1850	William Edward Newton.
Construction of ships or vessels propelled by paddle-wheels, with a view to better arming the same.	13,276	10th Oct. 1850	John Scott Russell.
Construction of ships and vessels [ <i>for the reception of propellers or steering apparatus</i> ].	13,340	12th Nov. 1850	Henry Wimshurst.
Construction of vessels - - - - -	13,353	19th Nov. 1850	{ William Laird. Edward Alfred Cowper.
Improvements applicable to steam-vessels or ships -	13,435	2nd Jan. 1851	{ John Tatham. David Cheetham.
Construction and building of ships, boats, buoys, rafts, and other vessels and appliances for preserving life and property at sea.	13,503	10th Feb. 1851	John Harcourt Brown.
Construction of ships and vessels - - - - -	13,632	13th May 1851	Edward John Carpenter.
Construction of floating vessels; adaptation and manufacture of materials for the purpose.	13,638	22nd May 1851	George Tate.
Boats - - - - -	13,659	12th June 1851	Edward Lyon Berthon.
Constructing ships and other vessels - - -	13,736	4th Sept. 1851	John Poad Drake.
Building and constructing ships and vessels - -	13,792	30th Oct. 1851	Michael Scott.
Combinations of materials in ship-building - -	13,928	27th Jan. 1852	James Joseph Brunet.
Constructing iron ships or vessels - - - -	13,992	27th Feb. 1852	Charles John Mare.
Ship-building - - - - -	14,034	24th March 1852	{ John White. Robert White.
Ordnance and fire-arms; balls and shells [ <i>gun-boats constructed to fire guns below the water-line</i> ].	14,041	24th March 1852	John Macintosh.
Ships, boats, and vessels, and certain articles of ships' furniture [ <i>using air-tight tubes in constructing the sides; also forming the furniture, with their sides, ends, and other portions, of air-tight tubes, for safety of mail bags and other articles</i> ].	14,118	8th May 1852	Joseph Jepson Oddy Taylor.
Improvements in and applicable to boats, ships, and other vessels [ <i>building; also a shield; use of sights; mounting and working guns; raising ammunition on deck</i> ].	14,130	22nd May 1852	Richard Roberts.
Improvements partly applicable to marine architecture - - - - -	14,259	12th Aug. 1852	{ Daniel Adamson. Leonard Cooper.
Manufacture of iron for ship-building - - -	14,335	23rd Oct. 1852	Robert M'Gavin.
<b>2. (Life-boats and Rafts.)</b>			
Floating machine for conveying timber and other materials from one part of the world to another, without shipping.	866	17th Dec. 1766	Isaac Levy.
Raft for transporting timber - - - - -	4971	15th June 1824	William Harrington.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Portable life-boat [ <i>cork in canvas cases, with planks and iron framing</i> ].	5108	26th Feb. 1825	Jonas Bateman.
Independent safety boat - - - - -	5988	5th Aug. 1830	William Dobree.
Apparatus for or methods of preserving persons or property when in danger by shipwreck or otherwise, by speedily converting ordinary boats into life-boats; also other apparatus or means for the same object.	6167	24th Sept. 1831	Henry Hope Werninck.
Portable safety boat or pontoon - - - - -	9128	28th Oct. 1841	Thomas Holcroft.
Life-boats or rafts - - - - -	10,372	31st Oct. 1844	George Beadon.
Life-boats, life-buoys, and apparatus for conveying persons ashore from wrecked or stranded vessels.	10,898	27th Oct. 1845	Reginald Orton.
Marine vessels and apparatus for the preservation of human life [ <i>life-boat</i> ].	12,843	7th June 1849	Edward John Payne.
Improvements applicable to the manufacture of tubes and other like articles of utility [ <i>making life-buoys or preservers</i> ].	13,109	8th June 1850	William Newton.
Life-boats - - - - -	13,149	24th June 1850	William Laird.
Life-boats - - - - -	13,307	2nd Nov. 1850	Jonas Bateman.
Life-boats - - - - -	13,520	22nd Feb. 1851	Henry Richardson.
Life-rafts [ <i>boats</i> ] - - - - -	14,126	17th May 1852	George Frederick Parratt.
Improvements in and applicable to boats, ships, and other vessels [ <i>a life-boat</i> ].	14,130	22nd May 1852	Richard Roberts.
<b>IX.—Ships' Bolts and other Fastenings.</b>			
Engine for drawing Spanish and Swedish iron into rounds for bolts suitable for shipping and other uses.	207	24th Feb. 1679	Thomas Harvey.
Machine for making ships' bolts - - - - -	854	31st July 1766	John Purnell.
Making ships' bolts and other fastenings - - -	1381	29th July 1783	William Forbes.
Making and preparing bolts to fasten ships' timbers together.	1383	2nd Oct. 1783	William Collins.
Making ships' bolts and rods - - - - -	1536	4th March 1786	John Butler.
Form of bolts and nails for ship and other fastenings	4554	1st May 1821	Alexander Law.
Form of ships' bolts and fastenings - - - - -	4571	17th July 1821	Alexander Law.
Applying iron bolts, spikes, nails, pintals, braces, and other fastenings used in the construction of ships and other vessels.	5692	4th Sept. 1828	Granville Sharp Pattison.
Manufacturing bolts and chains [ <i>enlarged at the junction to secure strength</i> ].	5929	24th April 1830	Samuel Brown.
Manufacture of bolts and other ships' fastenings -	6347	17th Dec. 1832	George Frederick Muntz.
Fastenings for parts of ships and other vessels -	9958	21st Nov. 1843	Francis Higginson.
<b>XII.—Graving, Colouring, Sheathing, and Compositions for Preserving.</b>			
Cement to preserve ships, pinnaces and other vessels, from fire, also from barnacles.	32	31st Aug. 1625	William Beale.
Graving, garnishing, and colouring ships and other vessels - - - - -	154	8th Oct. 1667	{ Sir Phillip Howard, Knt. Francis Watson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Graving, garnishing, and colouring ships, barges, and other vessels, by a liquor drawn from a certain grain and some other ingredients - - }	158	2nd March 1668	{ Sir Phillip Howard, Knt. Francis Wallison.
Manufacture of milled lead for sheathing and preserving of ships or any other thing - - }	254	13th Aug. 1687	{ Richard Kent. Charles Davenant. Thomas Agar. John Warter. Thomas Hale. Michael Hale.
Composition for preserving ships from worms -	341	2nd Aug. 1695	Charles Ardesorf.
Preparation applied to the bottoms of ships to preserve the same from decay, also from worms and other things detrimental to shipping.	478	3rd June 1725	Daniel Pajon.
Preserving the sheathing of ships from the devastations of worms - - - - - }	497	9th May 1728	{ Benjamin Robinson. Francis Hanksbee.
Compound preparation for preserving the bottoms of ships and other vessels from being eaten into by worms and other insects.	687	18th Dec. 1767	Joachim Smith.
Cement for paying the sides and bottoms of ships, for preserving them from worms, and for preserving buildings made of wood and exposed to the weather.	990	28th May 1771	John Worth.
Bitumen or fire mastic for covering or sheathing ships and preventing the necessity of calking and careening.	1225	26th May 1779	Isaac Narbell.
Compound metal capable of being forged hot or cold, for making sheathing for ships.	1240	10th Dec. 1779	James Keir.
White composition,—“Marine metal,”—for sheathing ships, and for other valuable purposes - - }	1256	12th June 1780	{ Nicholas Donnithorne. Robert Sherson. Edward Smith.
Ornamenting the interior of ships with foil stones, Bristol stones, paste, and all sorts of pinched glass, sapped glass, and every other stone, glass, and composition used in the jewellery trade.	1552	5th Aug. 1786	John Skidmore.
Making a composition to preserve ships' bottoms -	1802	2nd May 1791	William Murdock.
Metal sheets and fastenings for sheets for the sheathing of ships.	1926	20th Dec. 1792	William Collins.
Method by the application of which ships are rendered durable, sound, and free from bilge-water [composition of pitch, &c.].	2242	8th June 1798	Abraham Bosquet.
Application of sundry articles and materials for the preservation of shipping, and for marine purposes.	2390	23rd April 1800	William Collins.
Diving-machine to be used in and about stopping holes and leaks in ships' bottoms.	2650	2nd Oct. 1802	William Forder.
Sheathing ships with a material not hitherto used for the purpose [zinc] - - - - - }	2849	18th May 1805	{ Charles Hobson. Charles Sylvester. John Moorhouse.
Sheathing the bottoms of ships or vessels with certain materials as a substitute for copper.	3381	26th Sept. 1810	Thomas Norris.
Manufacture of materials and the application thereof to making ships and vessels water-tight and seaworthy; “Adhesive felt.”	3892	9th March 1815	William Wood.
Preventing leakage in ships, boats, and other vessels.	3952	15th Aug. 1815	John Edwards.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Cement for preserving the interior and exterior of ships and other things.	4012	23rd March 1816	William Haddock.
Composition and preparation of metal to make sheets or plates, and the application of the same for sheathing ships' bottoms.	4115	6th May 1817	William Collins.
Preparation of pitch or tar, separately or in union, by an admixture of other ingredients with either or both of them [ <i>mixing pitch or tar with caoutchouc, for paying the bottoms of ships to render them impervious to wet</i> ].	4768	22nd March 1823	Thomas Hancock.
Composition of metals for sheathing the bottoms of ships and vessels, or any other purpose for which the same is applicable.	4773	8th April 1823	Christopher Pope.
Process for improving the quality of copper and of alloyed copper, applicable to the sheathing of ships, and to other purposes [ <i>with zinc or other metals</i> ].	4802	14th June 1823	Robert Mushet.
Rendering ships' bottoms impervious to air and water.	5121	15th March 1825	Thomas Hancock.
Preserving vessels and other bodies from the effects of external or internal violence on land or water; other improvements connected with the same.	5330	25th Feb. 1826	Benjamin Newmarch.
Preserving decked ships or vessels from dry rot; preserving goods on board from damage by heat.	5590	18th Dec. 1827	John George.
Applying iron in the sheathing of ships and other vessels [ <i>combined with zinc</i> ].	5692	4th Sept. 1828	Granville Sharp Pattison.
Making or manufacturing felt or a substance in the nature thereof, applicable to covering the bottoms of vessels, and other purposes.	5791	23rd May 1829	Thomas Robinson Williams.
Alloy or compound metal applicable to the sheathing of ships, &c.	5892	28th Jan. 1830	John Revere.
Preparing and putting on copper sheathing for vessels.	5895	4th Feb. 1830	John Gray.
Preparation of certain metallic substances, and application thereof to the sheathing of ships, and for other purposes [ <i>alloy of copper and tin</i> ].	5952	6th July 1830	Matthew Uzielli.
Supporting blocks to be used in graving-docks, and for other purposes.	5976	5th Aug. 1830	Robert Clough.
Combination of materials for sheathing, painting, or preserving ships' bottoms, and for other purposes.	6129	6th July 1831	Baron Charles Wetterstedt.
Manufacture of metallic plates for sheathing the bottoms of ships and other such vessels.	6324	22nd Oct. 1832	Sherman Converse.
Manufacture of metal plates for sheathing - -	6325	22nd Oct. 1832	George Frederick Muntz.
Preparing certain metals applicable to sheathing } the bottoms of ships, and for other purposes - }	6594	17th April 1834	{ William Williams. Thomas Hay.
Metallic sheathing for the bottoms of ships or vessels	6724	25th Nov. 1834	Jacob Tilton Slade.
Calking ships and other vessels - - - -	7396	19th June 1837	William Yetts.
Apparatus for repairing ships and vessels - -	7517	19th Dec. 1837	William Henry Pitcher.
Forming a fabric applicable to various uses, by combining caoutchouc or certain compounds thereof with wood, whalebone, or other fibrous materials manufactured for that purpose, or with metallic substances manufactured or prepared [ <i>for sheathing ships</i> ].	8382	8th Feb. 1840	James Hancock.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Mortar or cement for building, also for mouldings, castings, statuary, tiles, pottery, imitation of soft and hard rocks, and for other useful purposes [ <i>also for rendering ships, boats, and other sailing craft impervious to water, and secure from the ravages of insects</i> ].	8391	22nd Feb. 1840	Thomas Kerr.
Defending the sheathing of ships, and protecting their sides and bottoms.	8943	29th April 1841	Alfred Jeffery.
Sheathing ships and other vessels - - - -	9185	16th Dec. 1841	John Norton.
Combining materials to be used for cementing purposes, and for preventing the passage of fluids; forming or constructing articles from such compositions of materials [ <i>suitable for calking vessels</i> ].	9487	8th Oct. 1842	Charles Edward Deutsche.
Preparing fabrics of fibrous materials for covering the bottoms of ships, and for other uses [ <i>by electro-deposition</i> ].	9693	11th April 1843	James Napier.
Mastic or cement, which may be also employed as an artificial stone, and for coating metals and other substances [ <i>for coating ships' bottoms</i> ].	9847	20th July 1843	Charles Bertram.
Combination of materials to be used as a substitute for canvas and other surfaces employed as grounds for painting; some of which combinations are applicable to other purposes [ <i>for sheathing ships</i> ].	10,054	14th Feb. 1844	Elijah Galloway.
Mixture of metals applicable for the manufacture of sheathing for ships and other vessels.	10,056	17th Feb. 1844	John Lionel Hood.
Calking ships, boats, and other vessels - - -	10,267	24th July 1844	Sarah Coote.
Securing ships or vessels from floatal damage - -	11,335	15th Aug. 1846	John Buchanan.
Manufacture of metal plates for sheathing the bottoms of ships.	11,410	15th Oct. 1846	George Frederick Muntz.
Manufacture of sheet metal for sheathing and for other purposes.	11,434	3rd Nov. 1846	Baron Charles Wetterstedt.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of sheathing</i> ] - - }	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Sheathing ships and vessels - - - - -	12,084	4th July 1849	John Grantham.
Preparation of materials for coating ships and other vessels - - - - - }	12,726	1st Aug. 1849	{ Adam Yule. John Chanter.
Materials for coating the bottoms of iron ships or vessels.	12,934	19th Jan. 1850	Macgregor Laird.
Cleansing vessels - - - - -	13,095	1st June 1850	John Tucker.
Sheathing ships [ <i>by using sheets of tin, tinfoil, or any of its alloys</i> ] - - - - }	13,377	30th Nov. 1850	{ James Augustus Elmslie. George Simpson.
Construction and manufacture of sewers, drains, water-ways, pipes, reservoirs, and receptacles for liquids or solids, from a substance not hitherto used for the purpose [ <i>bitumen; useful, when combined with cloth, for protecting ships' bottoms</i> ].	13,698	22nd July 1851	Thomas Earl of Dundonald.
<b>IV.—Masting and Rigging, Blocks and Tackle.</b>			
Set of engines, tools, instruments and other apparatus, for making blocks, shivers, and pins.	782	6th Dec. 1762	Elizabeth Taylor.
Bushing cast-iron or other metal shivers for ships' blocks.	1110	28th Nov. 1775	Walter Taylor.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Ships' blocks which turn on iron or steel pins or axles cased with metals.	1205	23rd Dec. 1778	William Bent.
Construction of shivers or pulleys for ships' blocks -	1295	5th June 1781	Walter Taylor.
Machine for coating or bushing and greasing shivers and pulleys of all kinds.	1567	30th Oct. 1786	Walter Taylor.
Rigging vessels - - - - -	2350	4th Nov. 1799	Richard Hall Gowar.
Combining masts, yards, and bowsprits hollow, so as to give them lightness and strength;—applicable to other purposes.	2415	17th June 1800	George Smart.
Machine for cutting one or more mortices, forming the sides of the shells of blocks, and cutting the pin-hole of the same.	2478	10th Feb. 1801	Marc Isambard Brunel.
Method of manufacturing and fabricating cables, shrouds, stays, and other articles for the rigging of ships, of materials never before used for that purpose.	2748	19th Jan. 1804	John Slater.
Rigging of ships or vessels - - - - -	3107	4th Feb. 1808	Samuel Brown.
Machine for manufacturing thimbles for the rigging of ships and vessels, and for other purposes.	3173	31st Oct. 1808	Henry Van Wart.
Making and manufacturing shives or shivers and pulley-wheels, and various other articles, from compositions of earth and minerals, which render them more durable than wood.	3275	14th Nov. 1809	James Hall.
Masts and rigging of ships - - - - -	4260	9th May 1818	Robert Eccles.
Constructing beams, masts, yards, bowsprits, and other parts of vessels; also parts of the rigging of such vessels [using cylinders of iron].	4461	15th May 1820	Robert Bill.
Making metallic tubes, cylinders, cones, or other forms adapted to and for the construction of masts, yards, booms, and bowsprits, or for other purposes to which they may be applicable.	4644	5th Feb. 1822	Robert Bill.
Lanyard for the shrouds and other rigging of ships and other vessels; apparatus for setting up the same.	4831	18th Aug. 1823	Robert Rogers.
Fid for the upper masts of ships and other vessels -	4839	21st Aug. 1823	Benjamin Rotch.
Construction of masts, yards, and rigging of ships and smaller vessels, and tackle for working the same.	4965	7th July 1824	John Lane Higgins.
Masting vessels - - - - -	5028	4th Nov. 1824	Thomas Richard Guppy.
Ships' tackle [apparatus to give elasticity to cables and other parts of rigging].	5043	25th Nov. 1824	William Shelton Brunett.
Fids for topmasts, gallant-masts, bowsprits, and all other masts and spars to which the use of the fid is applied [by sliding bolts] - - - - -	5298	26th Nov. 1825	{ Henry King. William Kingston.
Construction of made masts and made bowsprits [bulk timber secured by iron hoops].	5324	19th Jan. 1826	Sir Robert Seppings, Knt.
Construction of masts, yards, and rigging of ships and smaller vessels; tackle used for working or navigating the same.	5333	11th Feb. 1826	John Lane Higgins.
Construction of fids or apparatus for striking top-masts and topgallant masts in ships [by sockets and screws].	5357	6th May 1826	Sir Robert Seppings, Knt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Diagonal prop for transferring perpendicular to lateral pressure [ <i>transferring a portion of the perpendicular pressure on the tressel-trees of ships and other vessels caused by the weight of the upper masts, yards, sails, and rigging, to a lateral pressure against some other part of the tressel-trees or lower mast, by means of a diagonal prop placed under the heel of the topmast</i> ].	5474	22nd March 1827	Benjamin Rotch.
Attaching, fixing, or securing the dead-eyes to the channels, or sides of ships or vessels.	5503	8th June 1827	John Were Clarke.
Construction of made masts - - - - -	5593	22nd Dec. 1827	{ Charles Augustus Ferguson. James Falconer Atlee.
Bands or hoops for securing made and other masts, bowsprits, and yards.	5807	15th Jan. 1828	James Falconer Atlee.
Construction and fastening of made masts [ <i>dore-tailing the pieces together</i> ].	5845	1st May 1828	Thomas Hillman.
Turning or shipping fid for securing and releasing the upper masts of ships and vessels.	5850	6th May 1828	Samuel Brooking.
Construction of made masts - - - - -	5769	5th Feb. 1829	Richard Green.
Construction and combination of machinery for securing, supporting, and striking the topmasts and topgallant-masts of ships and other vessels [ <i>fids</i> ].	5780	11th April 1829	William Prior.
Apparatus for fidding and unfidding masts, and masting and rigging vessels.	5914	27th Feb. 1830	Philip Chilwell de la Garde.
An improved fid - - - - -	5997	7th Sept. 1830	{ Henry George Peace. Richard Gardner. Joseph Gardner.
Tackle and other hooks, or "self-relieving hooks" -	6022	1st Nov. 1830	Jeffrey Shores.
Rigging for ships and other vessels - - -	6332	13th Nov. 1832	Joseph Lidwell Heathorn.
Fids for upper masts, running bowsprits, and jib-booms of ships and other vessels.	6461	14th Aug. 1833	Francis Stiles Blake.
Standing rigging for ships and vessels, method of fitting and using the same.	6743	12th Jan. 1835	Andrew Smith.
Joining pieces of timber end to end, applicable for making masts and topmasts of ships; also for making piles, and for other purposes.	6753	6th Feb. 1835	Thomas Roberts.
Construction of standing rigging and stays for ships and vessels; method of fitting and using the same; construction of chains applicable to various purposes; machinery or apparatus for manufacturing such rigging and chains.	7261	21st Dec. 1836	Andrew Smith.
Apparatus for facilitating the securing of ships' masts.	7430	7th Sept. 1837	Henry Vere Huntley.
Rigging of ships and other navigable vessels - -	6762	31st Dec. 1840	William Newton.
Wooden blocks for ships' rigging, tackle, and other purposes where pulleys are used.	6832	3rd March 1841	Henry Newson Brewer.
Construction of masts for ships and vessels; applying the shrouds.	9171	9th Dec. 1841	Moses Poole.
Preparing masts, spars, and other wood for ship-building and other purposes; "Jeffery's marine glue."	9323	15th April 1842	Alfred Jeffery.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Apparatus for fixing standing rigging, chains, and other tackle.	9811	1st July 1843	James John Greer.
Manufacture of sheaves and shells for blocks and bolt-rings or washers, for the use of shipwrights or engineers - - - - -	10,142	10th April 1844	{ William Lenox. John Jones.
Manufacture of dead-eyes for setting up the rigging of ships and other sailing vessels.	10,194	22nd May 1844	James Perkins Chatten.
Construction of fids for ships' masts; means for setting up ships' rigging.	10,434	12th Dec. 1844	Moses Poole.
Masts and spars - - - - -	10,745	30th June 1845	Charles Goodwin.
Fids for masts of vessels - - - - -	11,422	22nd Oct. 1846	John James Alexander Maccarthy.
Fastening and setting up the rigging of ships -	12,274	28th Sept. 1848	Robert Stirling Newall.
Rigging vessels [wheel-rigged] - - - - -	12,452	6th Feb. 1849	John Browne.
Blocks and sheaves - - - - -	12,662	20th June 1849	Henry Mills Stowe.
Manufacture of ships' blocks - - - - -	12,747	23rd Aug. 1849	Frederick Chamier.
Improvements partly applicable to the standing rigging and other furniture of ships or vessels [applying springs].	12,953	29th Jan. 1850	Francis Edward Colegrave.
Apparatus for setting up ships' rigging - - -	13,052	20th April 1850	John Timothy Chapman.
Rigging and ships' fittings; machinery and apparatus employed therein.	13,456	16th Jan. 1851	Frederick Watson.
Rigging vessels - - - - -	13,840	4th Dec. 1851	John Macintosh.
Improvements in and applicable to boats, ships, and other vessels [mode of attaching masts].	14,130	22nd May 1852	Richard Roberts.
<b>V.—Sails,—making, reefing, and working.</b>			
Engine for wetting sails and for other purposes -	205	4th Oct. 1678	Robert Ledgingham.
Construction of ships' sails - - - - -	2857	11th June 1806	Malcolm Cowan.
Mode of working the sails of ships and other navigable vessels.	2959	22nd Aug. 1806	John Bywater.
Machine for manufacturing thimbles for the sails of ships and vessels.	3173	31st Oct. 1808	Henry Van Wart.
Ship-sails - - - - -	4260	9th May 1818	Robert Eccles.
Improvements in the staysails generally in use for the purpose of intercepting wind between the square sails of ships and other square-rigged vessels.	4880	13th Dec. 1823	Sir Henry Heathcoate.
Apparatus for reefing sails - - - - -	4843	15th April 1824	Daniel Tonge.
Construction of ship-sails - - - - -	4925	7th July 1824	John Lane Higgins.
Setting, working, reefing, and furling the sails of boats, ships, and other vessels.	5205	8th July 1825	Molyneux Shuldham.
Construction of sails of ships and smaller vessels -	5333	11th Feb. 1826	John Lane Higgins.
Making sails of ships and other vessels - - -	5695	4th Sept. 1828	Samuel Brooking.
Apparatus for preventing boats or other floating bodies from capsizing when oppressed by too much sail, and for easing off the ropes and sheets of different descriptions of vessels.	6643	10th July 1834	George Beadon.
Reefing certain sails of ships and other vessels -	9715	27th April 1843	John Winspear.
Manufacture of sails for ships and other vessels -	10,079	24th Feb. 1844	Archibald Trail.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Construction of sails for ships and other vessels -	10,777	21st July 1845	Thomas William Gilbert.
Manufacture of square and quadrilateral sails for ships and other vessels.	11,029	6th Jan. 1846	William Smith Brown, junior.
Reefing sails - - - - -	13,388	30th Nov. 1850	Henry Duncan Preston Cunningham.
Sails - - - - -	13,456	16th Jan. 1851	Frederick Watson.
Reefing sails - - - - -	13,875	19th Dec. 1851	Charles Lampport.
<b>VI.—Steering, Navigating, and Working.</b>			
Navigating boats, barges, lighters, and other vessels, on rivers or the sea.	126	14th March 1640	Edward Ford.
Oar for men-of-war, merchantmen, and other rowing vessels.	664	11th Nov. 1767	Stephen Baron de Bissy.
Machine for steering ships by a horizontal wheel, quadrants, pinion, and spindles - - - - }	1220	22nd April 1779	{ Thomas William Jolly. Robert Beatty.
Machine for towing ships, sloops, barges, and all other vessels upon the water - - - - }	1840	4th March 1788	{ Robert Fourness. James Ashworth.
Metal sheets and fastenings for sheets for rudder furniture.	1926	20th Dec. 1792	William Collins.
Steering ships - - - - -	2349	4th Nov. 1799	William Lonsdale.
Rudder, and means of preserving the same - -	2519	23rd June 1801	William Bolton.
Working barges and other vessels - - - -	2541	5th Oct. 1801	James Tremere.
Sailing and navigating ships and vessels - -	2581	19th Feb. 1802	{ Henry Penneck. Robert Dunkin.
Wheel or purchase for ships - - - - -	2976	15th Oct. 1806	William Clegg Gover.
Applying friction-boxes with or without a perpetual screw, spindle, and cog-wheel, to the steering-wheels of ships or vessels.	3022	20th March 1807	John Day.
Apparatus for towing ships of war and other vessels into harbour.	3112	3rd March 1808	Richard Willcox.
Machinery for towing, driving, or forcing ships and other vessels - - - - - }	3148	5th July 1808	{ Richard Trevithick. Robert Dickinson.
Towing, driving, or forcing ships and other vessels -	3152	14th July 1808	James Linaker.
Towing ships and vessels in and out of harbour, &c., by applying flat ropes, flat bands or belts, to their capstans and windlasses for the purpose.	3157	30th July 1808	John Carr.
Navigating, forcing, towing, and hauling boats, barges, and other vessels, on canals, rivers, and other navigable waters, by machinery worked by steam or other power.	3426	26th March 1811	Henry James.
Manufacture of rudder bands and bolts - - -	3442	1st May 1811	John Dobson.
Ships' steering-wheel - - - - -	3525	23rd Jan. 1812	Richard Rowland.
Navigating ships and vessels - - - - -	3627	26th July 1814	William Doncaster.
Method of assisting to render a ship, vessel, or craft governable in all her movements.	3630	4th Aug. 1814	James Thompson.
Rudder, and apparatus connected therewith - -	3688	28th Feb. 1815	Samuel Brown.
Working the oars or paddles of boats, barges, ships, and other kind of navigating vessels.	4368	8th May 1819	James Mason.
Rudders - - - - -	4505	1st Nov. 1820	Thompson Pearson.
Rudder, and steering of a ship or vessel - -	4520	22nd Dec. 1820	Andrew Timbrell.
Tillers and steering-wheels of vessels of various denominations.	4988	13th July 1824	Charles Phillips.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Lessening the drift of ships at sea, and protecting them in gales of wind [ <i>by canvas sails stretched on iron rods and let down into the sea</i> ].	5079	11th Jan. 1825	William Shelton Burnett.
Tackle used for working or navigating ships and smaller vessels.	5333	11th Feb. 1826	John Lane Higgins.
Application of a power to drawing ships and other vessels, and to other purposes [ <i>the pressure of the wind against a kite attached to the vessel</i> ] -	5420	18th Oct. 1826	{ James Viney. George Pocock.
Machine for giving additional power in working ships.	5667	21st June 1828	George Johnson Young.
Constructing ships' pintals for hanging the rudder -	5781	14th April 1829	John Lihon.
Construction of rudders for navigating vessels -	5911	27th Feb. 1830	Robert William Sievier.
Machinery for navigating vessels - - - -	5965	5th Aug. 1830	John Ruthven.
Apparatus used for suspending the rudders of ships or other vessels.	6023	1st Nov. 1830	John Collinge.
Rudders for ships; rudder hangings - - -	6094	21st March 1831	{ William Peeke. Thomas Hammick.
Construction of rudders; application of the same to ships or vessels.	6191	19th Nov. 1831	Arthur Howe Holdsworth.
Machine for equalizing draught, chiefly applicable to the towing of barges and other floating bodies on water.	6481	7th Oct. 1833	William Tanner Young.
Combination of machinery for steam navigation -	6594	21st Dec. 1833	John Howard Kyan.
Improvements applicable to inland navigation -	6648	24th July 1834	John Twisden.
Apparatus for facilitating the steering of vessels of certain descriptions.	6665	23rd Aug. 1834	John Rapson.
Machinery for tracking or towing boats and other vessels.	6815	14th April 1835	James Boydell, junior.
Working vessels for navigation - - - -	6892	26th Aug. 1835	John Lane Higgins.
Trimming and facilitating the progress of vessels in water.	7288	19th Jan. 1837	William Stedman Gillett.
Steam navigation - - - - -	7334	4th April 1837	Michael Berand Lauras.
Machinery applicable to steam navigation I' - -	7730	11th July 1838	{ Henry Van Wart. Samuel Aspinall Goddard.
Steering ships and vessels - - - - -	8214	9th Sept. 1839	John Rapson.
Improvements applicable to canal navigation -	8238	10th Oct. 1839	James Smith.
Steering vessels - - - - -	8280	23rd Nov. 1839	John Hunt.
Steering-apparatus - - - - -	8322	16th Dec. 1839	John Robinson.
Application of machinery for assisting vessels in their evolutions on the water, especially in tacking, veering, propelling, steering, casting, winding or backing astern.	8545	13th June 1840	Edward John Carpenter.
Improvements applicable to navigation - - -	9829	10th July 1843	Jacob Samuda.
Tillers for rudders of ships and other vessels -	9866	16th Aug. 1843	James Brown.
Machine for towing vessels; can be used as a boat -	9956	21st Nov. 1843	Moses Poole.
Steering vessels - - - - -	10,205	30th May 1844	Charles Anthony Deane.
Apparatus for raising or lowering the masts of vessels;—applicable to other purposes.	10,372	31st Oct. 1844	George Beadon.
Steering or manœuvring vessels - - - -	10,721	12th June 1845	Frederick Rosenborg.
Ships' riding bits - - - - -	10,835	18th Sept. 1845	James Caldwell.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Steering vessels - - - - -	10,847	2nd Oct. 1845	{ Robert Clark. Alexander Pirnie.
Construction and adaptation of apparatus for propelling and steering vessels on water.	10,995	10th Dec. 1845	Christopher Donkin Hays
Apparatus applicable to the working of canals -	11,129	11th March 1846	{ George Hinton Bovill. Robert Griffiths.
Steering ships and other vessels - - - -	11,143	25th March 1846	Thomas John M <sup>c</sup> Sweny.
Applying rudders to ships and other vessels -	11,530	14th Jan. 1847	Lionel Campbell Goldsmid
Warping or hauling vessels;—applicable to moving other bodies - - - - -	11,538	21st Jan. 1847	{ George Beadon. Andrew Smith.
Steering vessels - - - - -	11,685	4th May 1847	William Henwood.
Applying means and apparatus to ships and vessels to improve their speed.	11,746	12th June 1847	Francis Bowes Stevens.
Steering vessels - - - - -	11,887	7th Oct. 1847	Sir Samuel Brown, Knt.
Propelling [adaptation of propellers for steering vessels].	12,050	8th Feb. 1848	Robert Fowles.
Apparatus for steering ships and other vessels -	12,331	18th Nov. 1848	Thomas Cullen.
Steering ships and other vessels - - - -	12,538	28th March 1849	Pierre Rene Guerin.
Navigating ships, vessels, or boats, by steam and other powers.	12,739	10th Aug. 1849	John Ruthven.
Steering apparatus - - - - -	12,823	11th Jan. 1850	Robert John Fayer.
Steering ships or vessels - - - - -	12,934	19th Jan. 1850	Macgregor Laird.
Instruments and machinery for steering ships -	12,941	24th Jan. 1850	{ Joseph Long. James Long. Richard Pattenden.
Improvements applicable to inland navigation -	13,244	5th Sept. 1850	William Watt.
Steering vessels - - - - -	13,246	5th Sept. 1850	{ William Erskine Coch- rane. Henry Francis.
Steering vessels - - - - -	13,250	5th Sept. 1850	John Beattie.
Apparatus for steering ships and other vessels -	13,324	7th Nov. 1850	John Robinson.
Construction of ships and vessels [steering apparatus].	13,340	12th Nov. 1850	Henry Wimshurst.
Apparatus for facilitating the working or steering ships or vessels [working the sails by means of a winch].	13,409	12th Dec. 1850	Samuel Baxter.
Machinery for directing ships and vessels - -	13,632	13th May 1851	Edward John Carpenter.
Construction of rudders for vessels - - -	13,716	14th Aug. 1851	Jonathan Grindrod.
Machinery or apparatus for steering ships and other vessels.	13,895	13th Jan. 1852	Robert John Smith.
Navigating ships, boats, and vessels, by steam or other power.	13,944	31st Jan. 1852	Alexander Hediard.
Improvements in and applicable to boats, ships, and other vessels [trimming vessels under way].	14,130	22nd May 1852	Richard Roberts.
Art of navigation [mechanism for ascertaining a ship's course, and distance travelled].	14,191	28th June 1852	Thomas Hoblyn.
<b>VII.—Compasses and other Nautical Instruments.</b>			
Instrument for taking a ship's course - - -	139	— Aug. 1662	{ Thomas Togood. James Hayes.
Pendulum for discovering longitudes at sea -	143	3rd March 1664	Abraham Hill.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Instrument for taking altitudes at sea - - -	431	20th Oct. 1720	Jacob Rowe.
Instrument for taking the sun's altitude - -	501	27th July 1728	John Elton.
Mathematical machine, in two parts, for the improvement of astronomy and navigation, which is improved by applying its uses to various new problems in astronomy and navigation.	528	30th April 1731	William Bucknal.
Quadrant for taking at sea the altitude of the sun, moon, or stars, and also any other angles; level to be fixed to a quadrant, for taking meridional altitudes at sea.	550	22nd Dec. 1734	John Hadley.
Quadrant for taking the sun's altitude - - -	566	21st Dec. 1738	John Barston.
Quadrantal planetarian machine for taking the altitude of the planets or stars.	605	12th July 1744	John Neale.
Quadrant for taking the altitude of the sun or moon by refraction - - - - - }	656	25th May 1750	{ George Adams. Richard Jack.
Making a marine observatory and a new telescope and almanac, for obtaining the longitude at sea.	731	2nd Dec. 1758	Christopher Irwin.
Machine or regulator for discovery of the longitudes at sea.	745	31st Jan. 1760	Henry Jenkins.
Quadrant for taking observations at sea - -	752	2nd Oct. 1760	{ Thomas Winter, senior. John Dollond. Daniel Sentliff. Henry Gregory.
Quadrant of altitude, applicable chiefly to the uses of navigation.	817	14th Nov. 1764	Richard Brewer.
Constructing compasses in general - - -	850	10th June 1766	Gowin Knight.
Adjusting the glasses of Hadley's sextant, and rendering the instrument more correct and useful.	1017	22nd May 1772	Peter Dollond.
Hadley's quadrant or sea octant and sextant - -	1088	25th Nov. 1774	Joshua Lover Martin.
Azimuth and amplitude compass and quadrant, for use in navigation and practical astronomy.	1229	25th June 1779	Gabriel Wright.
Antimeter or reflecting sector, with its appendages, for measuring angles by land or sea.	1286	21st March 1781	William Garrard.
Mariner's compass, with compass boxes, pendent or standing, and ventilator to contain either lamp or candle.	1322	20th March 1782	James Heriot.
Method of framing (composed of double parallel flat bars connected by cocks or pillars) to be used in the construction of octants, sextants, quadrants, and of all other nautical and astronomical instruments whose limbs are formed of a circle or part of a circle.	1644	1st April 1788	Edward Troughton.
Mariner's compass - - - - -	1663	12th Aug. 1788	Kenneth McCulloch.
Instrument to serve as an artificial horizon, by means of which the sun's altitude may be taken at sea with a Hadley's quadrant, and the latitude found when the real horizon is obscured or invisible.	1731	2nd March 1790	Thomas Ribright.
Instrument for calculating longitude - - -	1753	1st June 1790	Estienne Leguin.
Quadrant of altitude - - - - -	1786	21st Jan. 1791	John Syeds.
Making magnetical compasses, commonly called azimuth, amplitude, steering, and hanging compasses, for use in navigation, marine surveying, &c.	1815	5th July 1791	Gabriel Wright.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Apparatus to be affixed to Hadley's quadrant to obtain an artificial horizon.	1842	17th Dec. 1791	Henry Ould.
Instrument whereby the latitude, longitude, and magnetic variation at sea or on shore may be obtained.	1980	18th March 1794	Patrick Rooney Nugent.
Azimuth and amplitude compasses, or adding to the same a reflecting quadrant and horizon, to enable a person without assistance to take the azimuth of celestial objects and their altitudes at the same time, in every latitude or in any altitude of the object; method of stopping the card of the compass, and reading off the degrees and minutes from the vernier with or without the card being stopped; apparatus for mechanically working and solving the problems for finding the magnetic and true azimuths of objects taken by the compass.	2081	19th Jan. 1796	Gabriel Wright.
Instrument for taking observations and altitudes } by sea and land, without dependence on the } visible or sensible horizon - - - - }	2087	9th Feb. 1796	{ Edward Cook. Richard Eva.
Instrument for ascertaining the geographical position of vessels at sea.	2230	18th April 1798	John Edwards.
Mathematical instruments whereby the latitude, longitude, and the variation and inclination of the needle at sea or on shore, may be obtained.	2246	27th June 1798	Patrick Rooney Nugent.
Mathematical instrument, or "marine level," for showing a ship's deviation from the horizontal plane; applicable in surveying, levelling, and ascertaining vertical and perpendicular situations.	2532	11th Aug. 1801	William Fitzgerald.
Artificial horizon to be attached to and used with the quadrant or sextant, for taking altitudes on land or water.	2559	17th Nov. 1801	Chester Gould.
Glass on a new principle, to be used by mariners at sea, instead of the common sand-glasses, when heaving the log for the purpose of ascertaining the ship's rate of sailing, and also for other uses either on land or at sea.	2706	28th May 1803	Chester Gould.
Steering, amplitude, or azimuth compass; and scale for finding and working the course of ships.	2863	7th Oct. 1805	John Syeds.
Machine for showing latitude and longitude at sea.	3066	9th Dec. 1807	Charles Grant Viscount De Vaux.
Ships' binnacles and compasses - - - -	3265	26th Sept. 1809	{ Egerton Smith. Michael Harris.
Action of sea and land compasses - - - -	3363	18th July 1810	George Stebbing.
Ships' compasses and binnacles - - - -	3525	23rd Jan. 1812	Richard Rowland.
Navigator's sector - - - - -	3566	14th May 1812	Henry Ewington.
Mariner's compass - - - - -	3644	30th Jan. 1813	Francis Crow.
Suspending the card of the mariner's compass -	3646	4th Feb. 1813	George Alexander.
Instruments for calculating problems in navigation.	3691	5th May 1813	William Reid.
Instrument or instruments, to be used jointly or separately, for ascertaining a ship's way at sea, and assisting in determining the longitude.	3751	16th Nov. 1813	William Pope.
Compass capable of adjustment to the variation of the magnetic needle.	3760	25th Nov. 1813	John Duncombe.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Instrument for ascertaining longitude - - -	4114	29th April 1817	Antonio Joaquim Friere Marreco.
Mariner's compass - - - - -	4259	7th May 1818	Henry Constantine Jennings.
Instrument for ascertaining the variation of the compass; "The meridional declination dial."	4374	18th May 1819	George Atkins.
Instrument for ascertaining the difference of ships' draught of water forward and aft, at sea and in harbour.	4392	27th July 1819	James Head.
Quadrants - - - - -	4695	31st July 1822	Robert Benton Roxby.
Compass for navigation and other purposes - -	4996	5th Aug. 1824	George Graydon.
Construction of a ship's compass - - - -	5159	18th June 1825	Charles Phillips.
Instrument to determine angles of altitude without a view of the horizon.	5229	30th July 1825	Rev. William Barclay.
Ships' compasses - - - - -	6269	30th May 1832	Grant Preston.
Manufacture of sextants, quadrants, circles, and other instruments used in taking observations and surveys.	6528	20th Dec. 1833	David Rowland.
Instruments for measuring angles and distances, applicable to nautical and other purposes.	6582	27th March 1834	Janet Taylor.
Instrument or apparatus for ascertaining or determining the latitude and longitude of any place, or the situation of ships or other vessels at sea, and the dip and variation of the magnetic needle; "Sherwood's magnetic geometer."	7737	18th July 1838	Richard March Hoe.
Rendering magnetic needles less influenced by local attraction;—applicable to other magnetic objects for the same purposes.	8096	8th June 1839	Baron Henry De Bode.
Compass for navigation and other purposes;—partly applicable for measuring angles, and partly to magnetic compasses for ascertaining true bearings from celestial observations, and for determining the variation of the magnetic needle, by comparing such bearings with that of the said needle.	8248	24th Oct. 1839	George Graydon.
Level for ascertaining the horizon and degrees of inclination.	8742	16th Dec. 1840	Andrew Pruss D'Olesowski.
Meridian instrument - - - - -	8793	20th June 1843	James Mackenzie Bloxam.
Rendering magnetic needles less prejudicially influenced by local attraction.	9932	9th Nov. 1843	William Bush.
Machinery for making parts of instruments for nautical purposes.	9993	21st Dec. 1843	Pierre Frederick Ingold.
Ships' compasses - - - - -	10,277	30th July 1844	Edward John Dent.
Nautical instruments - - - - -	10,625	17th April 1845	William Peter Piggott.
Instrument for registering angles at sea - - -	11,766	24th June 1847	John Richard Watson.
Mariner's compass - - - - -	11,887	7th Oct. 1847	Sir Samuel Brown.
Nautical instruments [ <i>ships' compasses</i> ] - - -	12,059	8th Feb. 1848	William Peter Piggott.
Mariners' compasses - - - - -	12,220	20th July 1848	{ James Napier. James Murdock Napier.
Apparatus for enabling the place or direction of floating bodies to be ascertained [ <i>mariner's compass, with chemically prepared paper, moved by suitable clockwork</i> ].	12,575	17th April 1849	Alexander Alliott.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Taking altitudes and levels at sea and on land -	12,901	19th Dec. 1849	Edward Lyon Berthon.
Compasses for navigation, surveying, and other purposes.	13,176	17th July 1850	Edward John Dent.
Nautical instrument for great circle sailing - -	13,345	14th Nov. 1850	Edward David Ashe.
Magnetic needle and mariners' compasses - -	13,392	7th Dec. 1850	John Mortimer.
Construction of compasses - - - - -	13,429	27th Dec. 1850	John Ransome S <sup>r</sup> John.
Manufacture of dials for mariners' compasses and other articles requiring the same - - - }	13,558	17th March 1851	{ Herbert Minton. Augustus John Hoff- staedt.
Ascertaining and indicating the deviations or errors of the mariner's compass.	13,982	23rd Feb. 1852	William Walker.
Nautical instruments for ascertaining and indicating the true spherical course and distance between port and port.	14,105	1st May 1852	John Moore.
Mariner's compass - - - - -	14,274	23rd Aug. 1852	Julius Roberts.
<b>VIII.—Logs; Apparatus for Measuring and Sounding.</b>			
Engine applied to ships to show the number of leagues sailed.	228	1st Nov. 1683	William Truelock.
Machine that gives exactly the way a ship makes, and counts her leeway, tells what speed the winds blow, and proves the different force of current in any depth; also a machine that will retard a ship when driving upon a lee shore where there is no anchorage, or on being forced back in her voyage by contrary winds.	534	18th Oct. 1731	George Reynoldson.
Machine for measuring a ship's way - - -	1038	5th Dec. 1772	William Foxon.
Machine for measuring a ship's way with more accuracy than the log line; "Marine perambulator."	1133	9th Sept. 1776	James Guerimand.
Perpetual log, or instrument for measuring a ship's way through the water, and for ascertaining the rate of sailing at any time.	1895	5th July 1792	Richard Hall Gower.
Instrument or log for ascertaining a ship's distance at sea.	2405	26th May 1800	Chester Gould.
Instrument or log for ascertaining a ship's distance at sea.	2458	17th Dec. 1800	Chester Gould.
Instrument for taking soundings at sea - -	2601	24th March 1802	Edward Massey.
Instrument for taking soundings at sea - -	2938	6th June 1806	Edward Massey.
Machine for measuring space or a ship's course, or keeping accounts upon dials and cosmographical columns, showing also the leeway of a ship;—partly applicable to other purposes.	3088	9th Dec. 1807	Charles Grant Viscount De Vaux.
Implement for navigation, called a sounder - -	3888	20th Dec. 1814	Robert Dickinson.
Perpetual log, or sea perambulator - - -	4082	16th Nov. 1816	Robert Baines Raine.
Apparatus for ascertaining the way or leeway of ships and other vessels;—applicable to other purposes.	5130	17th March 1825	Mark Cosmahan.
Indicating the depth of water in ships and vessels -	5312	14th Oct. 1825	James Ashwell Taylor.
Instruments or apparatus for ascertaining the trim and stability of ships or other vessels [ <i>a pendulum</i> ]	5435	20th Dec. 1826	{ William Kingston. George Stebbing.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Apparatus used for measuring the progress of vessels through the water, and for taking soundings at sea.	6781	9th Dec. 1834	Edward Massey.
Instrument for ascertaining the depth of water in seas and rivers.	6928	14th Nov. 1835	John Ericsson.
Apparatus used for measuring the progress of vessels through the water, and for taking soundings at sea.	7113	13th June 1836	Edward Massey.
Apparatus for measuring and indicating the depth of water in ships' holds.	7672	5th June 1838	Thomas Hammond Fiske.
Ascertaining and indicating the rate of vessels passing through the water.	7780	21st Aug. 1838	Jean Leandre Clement.
Measuring the velocities with which ships or other vessels, &c., move in fluids; ascertaining velocities of fluids in motion.	8611	27th Aug. 1840	Thomas Robinson Williams.
Machinery for obtaining the velocity of or the space passed through by ships, &c.	8645	24th Sept. 1840	John Johnston.
Apparatus for ascertaining the rate at which vessels are passing through the water.	10,210	1st June 1844	Edward Massey.
Apparatus for ascertaining and measuring the progress and direction of ships, and for taking soundings at sea.	10,450	31st Dec. 1844	Alexander Bain.
Ships' logs and sounding-machines - - -	11,251	22nd June 1846	Thomas Walker.
Logs and sounding-apparatus - - -	12,071	18th Feb. 1848	Edward Massey.
Apparatus for measuring the speed of vessels and ascertaining the depths of water.	12,280	5th Oct. 1848	Edward John Massey.
Instrument to show the velocity of a ship or other vessel propelled through the water by wind, steam, or other moving power.	12,667	20th June 1849	Edward Lyon Berthon.
Ascertaining and indicating the course, velocity, trim, and draught of ships.	12,901	19th Dec. 1849	Edward Lyon Berthon.
Apparatus for ascertaining and registering the velocity of ships or vessels moving through the water.	13,429	27th Dec. 1850	John Ransome St John.
Instruments for sounding and indicating the rise, fall, and rate of currents.	13,659	12th June 1851	Edward Lyon Berthon.
Machinery applicable to registering the speed of and distance run by vessels in motion.	13,781	22nd Oct. 1851	John Ramsbottom.
Sounding-instruments - - - - -	13,876	19th Dec. 1851	Richard Archibald Brooman.
<b>IX.—Anchors—[making, shipping, and weighing].</b>			
Engine for weighing ships, guns, and anchors -	311	17th Jan. 1693	{ George Nation. John Dewee. Thomas Puckle.
Weighing a ship's anchor at sea - - - -	699	2nd April 1755	Stephen Wright.
Weighing anchors by preventing the cable from surging, or sudden running out - - - }	1132	23rd Aug. 1776	{ William Knowles. John Holman.
Anchors for ships and vessels - - - -	2088	4th Feb. 1796	James Stuard.
Weighing anchors - - - - -	2349	4th Nov. 1799	William Lonsdale.
Engine for raising anchors - - - - -	3010	12th Feb. 1807	John Day.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Making the shanks of anchors and other bodies of like form, of wrought iron, by using one solid core of iron for the centre, with bars of feather-edged iron, so constructed as to save considerable quantity of iron, coals, and labour in manufacturing the same.	3409	7th March 1811	Richard Jackson.
Manufacturing ships' anchors - - - -	3671	26th March 1813	Thomas Brunton.
Anchors - - - - -	3726	23rd July 1813	Richard Pering.
Substitutes for anchors; "Block anchor" - -	4420	4th Dec. 1819	William Rodger.
Construction of anchors - - - - -	4589	11th Sept. 1821	Richard Francis Hawkins.
Anchors or substitute for anchors - - - -	4599	18th Oct. 1821	John Christophers.
Anchors [ <i>introducing the stock at the crown between the flukes</i> ].	4649	12th Feb. 1822	Thomas Brunton.
Construction of anchors [ <i>with a single fluke</i> ] - -	4715	18th Oct. 1822	Samuel Francis Somes.
Anchors - - - - -	4720	1st Nov. 1822	William Piper.
Construction of ships' anchors - - - -	4856	1st Nov. 1823	George Hawkes.
Apparatus for stopping, releasing, and regulating chain and other cables of vessels [ <i>by a spring or elastic stopper</i> ].	5052	9th Dec. 1824	Robert Bowman.
Rendering ships' cables and anchors more secure and less liable to strain and injury while the ships lie at anchor [ <i>by an elastic stopper</i> ].	5288	10th Nov. 1825	Benjamin Cook.
Securing or mooring ships and other floating bodies; apparatus for the purpose [ <i>piles, chains, and floating buoys</i> ] - - - - -	5388	14th July 1826	{ John Palmer de la Fons. William Littlewort.
Construction of cat-blocks and fish-hooks, and application thereof.	5390	14th July 1826	John Lane Higgins.
Anchors [ <i>combination of wood and iron in the construction of the shank</i> ].	5625	13th March 1828	William Rodger.
Apparatus for stoppering and securing chain-cables, also for weighing anchors attached to such cables with or without a messenger.	5660	3rd June 1828	James Moffat.
Construction of anchors [ <i>the parts being bound together by iron bands</i> ].	5836	21st Aug. 1829	William Rodger.
Construction of cat-head stoppers - - - -	5854	30th Sept. 1829	William Rodger.
Anchors - - - - -	6004	6th Oct. 1830	Richard Pering.
Anchors - - - - -	6443	27th June 1833	John Christophers.
Anchors - - - - -	6455	26th July 1833	William Rodger.
Anchors - - - - -	6601	26th April 1834	John Christophers.
Anchors, and apparatus for fishing anchors, applicable to anchors in common use.	7140	2nd July 1836	Samuel Meggitt.
Anchors; friction-rollers to facilitate the lowering and raising such and other anchors;—applicable to other purposes.	7182	15th Sept. 1836	Moses Poole.
Anchors; means of mooring and riding ships at anchor.	7561	8th Feb. 1838	George Charlton.
Anchors - - - - -	7774	15th Aug. 1838	William Henry Porter.
Increasing the security, tenacity, and strength of beams, axles, rods, and other articles made of iron and steel [ <i>anchors</i> ].	7944	19th Jan. 1839	Richard Dugdale.
Improvements applicable to machinery for securing ships and other vessels - - - - -	8197	16th Aug. 1839	{ William Bridges Adams. John Buchanan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Preventing ships and other vessels from foundering	8711	21st Nov. 1840	{ William Henry Hutchins. Joseph Bakewell.
Anchors for mooring beacons;—applicable also to ships.	9680	27th March 1843	Sir Samuel Brown, Knt.
Arrangements for raising ships' anchors, and for other purposes.	10,446	21st Dec. 1844	Charles Johnstone.
Construction of anchors - - - - -	11,043	17th Jan. 1846	Arthur Wellington Price.
Anchors - - - - -	11,210	18th May 1846	William Rodger.
Anchors - - - - -	11,422	22nd Oct. 1846	John James Alexander Maccarthy.
Apparatus and machinery for raising, lifting, and otherwise moving heavy bodies [ <i>constructing solid anchors</i> ].	11,509	23rd Dec. 1846	Pierre Frederic Gougy.
Construction of anchors - - - - -	11,792	13th July 1847	William Langley Beal.
Moorings - - - - -	12,630	5th June 1849	William Henry Smith.
Anchors - - - - -	12,640	5th June 1849	Osgood Field.
Anchors - - - - -	13,136	19th June 1850	Charles Greenway.
Manufacture of chains [ <i>anchors</i> ] - - - - -	13,817	15th Nov. 1851	Antonio Dominique Sisco.
Apparatus to connect with cables of ships, &c., when riding at anchor.	13,976	23rd Feb. 1852	Samuel Banes.
Anchors - - - - -	14,076	20th April 1852	John Trotman.
Improvements in and applicable to boats, ships, and other vessels [ <i>casting, fishing, and stowing anchors</i> ].	14,130	22nd May 1852	Richard Roberts.
Anchor [ <i>being an extension for six years of W. H. Porter's patent, No. 7774, from the 15th August 1852</i> ].	14,357	9th Feb. 1853	Mary Honiball.
<b>X.—Capstans and Windlasses—[making and working].</b>			
Windlass to raise heavy weights on board ships and vessels.	954	15th March 1770	James Stuard.
Nautical windlass, adapted for applying the labour of men to various mechanic powers, but more peculiarly adapted to the use of navigation, such as rowing, craning, &c.	1117	11th March 1776	Michael Laurence Berford.
Capstan - - - - -	1535	27th Feb. 1786	George Neckleson Allen.
Destroying friction in capstans and windlasses -	1602	12th May 1787	Watkin George.
Windlass-wheel to be affixed to a crane for lifting weights.	1654	9th June 1789	John Mannall.
Cog-wheel, crab or capstan, with gear to work ships' pumps, engines, and hydraulic machines, and while working the pumps, engines, or machines, to give a ship way through the water in calms or light winds.	2197	31st Oct. 1797	John Harriott.
Capstan for use on board ships, in capstan-houses, on wharves, &c.	2222	10th March 1798	William Bolton.
Weighing and raising heavy burdens on board ship.	2349	4th Nov. 1799	William Lonsdale.
Capstans and windlasses for ships and other purposes.	2483	26th Feb. 1801	Thomas James Plucknett.
Windlass for ships and for other purposes - -	2484	26th Feb. 1801	Robert Gibson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Applying a certain power to work ship and other windlasses, winches and cranes, also to other purposes.	2695	5th April 1803	Richard Francis Hawkins.
Making and working windlasses - - - -	2713	14th June 1803	{ John Harriott. Edmund Cobb Hurry. William Crispin.
Improvements applicable to windlasses, capstans, and to various other purposes.	2777	4th Aug. 1804	John Brown.
Portable windlass for drawing or hauling - -	2897	23rd Nov. 1805	Richard Lumbert.
Applying cables of ships and vessels upon the windlasses, capstans, or drums.	2947	4th July 1806	John Curr.
Applying friction-boxes, either with or without a perpetual screw, spindle, and cog-wheel, to extend and facilitate the power of engines, cranes, capstans, and other machines used for loading and unloading ships or vessels, and for raising anchors, and other great weights or bodies.	3022	20th March 1807	John Day.
Construction of windlasses for weighing the anchors of ships and navigable vessels; and mode of working them.	3048	6th June 1807	John Bywater.
Applying flat ropes and flat bands or belts to capstans and windlasses of ships and vessels, for towing the same.	3157	30th July 1808	John Curr.
Windlass; windlass bits; metallic hawse-hole chamber, for heaving to and getting on board ships' anchors.	3180	15th Nov. 1808	Nicholas Fairless.
Windlasses - - - - -	3671	26th March 1813	Thomas Brunton.
Machine for working capstans on board ships;—applicable to other purposes.	3736	4th Sept. 1813	Jacob Brazil.
Windlass for ships and other vessels - - -	3836	16th Aug. 1814	Michael Larkins.
Capstans [ <i>having a train of wheels and pinions to increase the power</i> ].	4394	20th Sept. 1819	Charles Phillips.
Capstans, windlass and hawse-roller - - -	4584	22nd Aug. 1821	John Nichol.
Capstans - - - - -	4857	1st Nov. 1823	George Hawkes.
Apparatus to be applied to windlasses - - -	4910	28th Feb. 1824	William Yetts.
Constructing capstans and windlasses - - -	5338	25th Feb. 1826	James Fraser.
Constructing capstans and windlasses - - -	5446	11th Jan. 1827	James Fraser.
Construction of capstans and windlasses - -	5459	3rd Feb. 1827	Ralph Hindmarsh.
Capstans - - - - -	5505	8th June 1827	Charles Phillips.
Construction of ships' windlasses [ <i>preventing recoil</i> ].	5518	4th July 1827	Thomas Sowerby.
Machine for giving additional power in working windlasses and capstans.	5667	21st June 1828	George Johnson Young.
Ships' windlasses - - - - -	5818	25th July 1829	George Straker.
Windlasses and relative machinery applicable to naval purposes.	5920	20th March 1830	George Scott.
Constructing capstans - - - - -	6210	10th Jan. 1832	John Libou.
Windlasses, or machinery for winding up the cable; "Tysack, Dobinson, and Co.'s compound lever windlass" - - - - -	6292	3rd Aug. 1832	{ Benjamin Cowle Tysack. Thomas Storer Dobinson John Robinson.
Capstans and apparatus used therewith - - -	6385	14th Feb. 1833	James Brown.
Capstans - - - - -	7107	4th June 1836	Baron Henry de Bode.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Capstans applicable to ships, and to other purposes; method of reducing manual labour in working capstans used at mines.	7193	28th Sept. 1836	William Pringle Green.
A nipping lever, for causing the rotation of wheels, shafts or cylinders, under certain circumstances [ <i>for windlasses</i> ].	7312	28th Feb. 1837	John Robinson.
Capstans - - - - -	7400	10th July 1837	William Pringle Green.
Capstans and windlasses - - - - -	7561	8th Feb. 1838	George Charlton.
Ship's windlasses;—applicable to other purposes -	7616	21st April 1838	Thomas Murray Gladstone.
Capstan and winch for purchasing or raising ships' anchors, for drawing coals and other articles out of coal and other mines; and also for drawing and working on railroads, by drawing pulleys with flat and round ropes.	7981	23rd Feb. 1839	Thomas Pratt.
Windlasses and capstans - - - - -	8469	15th April 1840	James Caldwell.
Machinery used for raising and lowering weights [ <i>windlasses and capstans</i> ].	8767	31st Dec. 1840	John Grylla.
Windlasses - - - - -	8916	5th April 1841	James Anderson.
Obtaining mechanical power [ <i>for working windlasses and capstans</i> ].	8991	19th July 1841	William Petrie.
Windlasses and capstans - - - - -	9338	3rd May 1842	John Robinson.
Windlasses - - - - -	9444	11th Aug. 1842	Joseph Betteley.
Construction of capstans - - - - -	9688	5th April 1843	George Johnson Young.
Ships' windlasses - - - - -	10,043	8th Feb. 1844	George Straker.
Windlasses - - - - -	10,835	18th Sept. 1845	James Caldwell.
Construction of ships and other vessels, and apparatus to be attached to the same [ <i>ships' windlasses</i> ].	11,053	20th Jan. 1846	John Spenceley.
Capstans and windlasses - - - - -	11,404	8th Oct. 1846	John Rombley.
Machinery for raising and lowering weights [ <i>capstans</i> ].	11,668	20th April 1847	Thomas Brown.
Construction of winches and windlasses - - -	11,750	15th June 1847	John Lane Higgins.
Construction of the cylinders or barrels of capstans and windlasses.	12,408	11th Jan. 1849	Francis Hobler.
Working windlass and other barrels - - -	12,985	28th Feb. 1850	{ George William Lenox. William Roberts.
Machinery or apparatus for lifting and moving weights, working chains, and pumping, especially adapted for ships' use.	13,135	19th June 1850	Charles Lamport.
Apparatus for lifting [ <i>constructing or working windlasses or winches</i> ].	13,409	12th Dec. 1850	Samuel Baxter.
Construction of capstans for nautical and general purposes.	13,708	31st July 1851	Charles Perley.
<b>II.—Loading and preserving Cargo; also Ballasting.</b>			
Engines and instruments for landing and shipping goods and merchandise - - - - -	185	12th Nov. 1765	{ Goodwin Wharton. William Perkins. James Innes, junior.
Engine for landing goods - - - - -	311	17th Jan. 1693	{ George Nation. John Dewee. Thomas Puckle.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Machine for unloading coal-ships in the pool of the river Thames.	712	23rd Feb. 1757	Edward Cox.
Discharging coal, culm, corn, and other matter, out of ships, boats, lighters, or other craft; also measuring or weighing the same.	864	25th Nov. 1766	Richard Liddell.
Machine for loading and unloading goods out of ships.	1108	22nd Nov. 1775	Samuel Miller.
Machine for discharging cargoes of ships, and for other useful purposes.	1734	13th March 1790	James Tate.
Machine for raising and removing coals and lime-stones from out of boats, barges, or vessels, in navigable rivers or canals.	1984	16th Oct. 1793	Joseph Sparrow.
Method of preventing all sorts of corn and seeds, and various other merchandise, from receiving damage by heat on board ships and in warehouses, and of improving all such corn, seeds, or other merchandise, as may have received damage by heat or otherwise.	2612	15th April 1802	Henry Gardiner.
Engine for loading and unloading vessels	3010	12th Feb. 1807	John Day.
Method of putting coals on board ships and other vessels, so as to prevent breakage.	3030	11th April 1807	William Chapman.
Machinery for discharging ships and other vessels of their cargoes	3148	5th July 1808	{ Richard Trevithick. Robert Dickinson.
Stowing ships' cargoes by means of packages, to lessen the expense of stowage, and keep the goods safe.	3172	31st Oct. 1808	Robert Dickinson.
Machine for raising, lowering, drawing, driving, forcing, impressing or moving, bodies, substances, materials, fluids, articles, or commodities [ <i>loading and unloading ships</i> ].	3218	20th March 1809	Simeon Thompson.
Transferring the ladings of lighters and barges into ships and vessels, and vice versa [ <i>by a crane</i> ].	4550	12th April 1821	William Chapman.
Machinery for loading or unloading ships, vessels, or craft.	5330	7th Feb. 1826	William Chapman.
Ballasting ships or vessels [ <i>by means of iron tanks holding water placed in the hold</i> ].	5582	13th Dec. 1827	Ralph Rewcastle.
Preserving goods on board ship from damage by heat.	5590	18th Dec. 1827	John George.
Vessels and apparatus for delivering coals from shipping to wharfs, &c., without employment of lighters.	6435	6th June 1833	James Caldwell.
Loading and unloading ships, brigs, schooners, and other vessels, especially "colliers."	6997	5th Feb. 1836	Henry Adcock.
Unloading shipping, especially "colliers"	9372	31st May 1842	Henry Wilkinson.
Apparatus to facilitate the loading of vessels with coal, culm, or cinders.	9821	6th July 1843	John Woodhouse Day.
Apparatus or mode for covering canal boats, so as to protect the goods and allow of their being loaded or unloaded.	12,713	18th May 1849	Rowland Brotherhood.
Ballasting and stowing cargo in ships, and other vessels.	12,919	8th Jan. 1850	David Blair White.
Ballasting vessels	13,246	5th Sept. 1850	{ William Erskine Cochrane. Henry Francis.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Machinery for loading or discharging certain descriptions of cargo in ships and other vessels - }	13,353	19th Nov. 1850	{ William Laird. Edward Alfred Cowper.
Improvements in and applicable to boats, ships, and other vessels [ <i>depositing coals on board ships</i> ].	14,130	22nd May 1852	Richard Roberts.
<b>XII.—Raising Ships out of Water; lowering Ships' Boats.</b>			
Engine without oars, for lowering ships and vessels out of and into rivers and harbours, when obstructed by contrary winds.	177	24th Dec. 1674	William Aerskin.
Engine and means for raising ships from the River Thames, or from stocks into harbours, and vice versa - - - - - }	223	21st Nov. 1682	{ Thomas Lord Windsor. George Pitt. Creshold Draper.
Machine for taking ships and vessels out of and into any harbour or river against wind or tide, or in a calm.	558	21st Dec. 1736	Jonathan Hulls.
Method of dragging ships out of water on to dry land [ <i>by means of a railway</i> ].	4353	23rd March 1819	Thomas Morton.
Drawing up ships and other vessels from the water on to the land; moving ships, vessels, and other bodies on land, from one place to another.	8045	6th Dec. 1830	Samuel Brown.
Machinery or apparatus applicable to raising vessels or other heavy bodies, and for securing or supporting the same.	9884	14th Aug. 1843	John Wood.
Drawing ships out of water up an inclined plane -	12,638	5th June 1849	Daniel Miller.
Suspending ships' boats and lowering them into the water.	13,975	23rd Feb. 1852	William Stirling Lacon.
Apparatus for raising and removing vessels or ships out of the water.	14,127	17th May 1852	William Edward Newton.
Improvements in and applicable to boats, ships, and other vessels [ <i>raising, lowering, disengaging, and stowing ships' boats</i> ].	14,130	22nd May 1852	Richard Roberts.
<b>XIII.—Raising Wrecks and Goods sunk in the Sea.</b>			
Making and using engines or instruments for diving, and for raising or bringing out of the sea or other deep waters, any goods lost or cast away by shipwreck or otherwise.	58	2nd April 1632	Richard Norwood.
Engines and inventions for the taking up of ships and goods sunk in the sea, and using the same.	73	18th July 1634	John Bulmer.
Engines, instruments, and works, for raising ships, vessels, or other carriages or things of weight, from out of the sea or any river or deep water - }	84	16th May 1722	{ Matthew Van Dyck. Sir Leventhpye Frauncke.
Discovery of wrecks and vessels sunk, also taking out of them goods, treasures, merchandise, guns, and ships' furniture.	183	16th March 1671	Edmund Curtis.
Buoying and raising up ships' ordnance, also treasures and other matters, from the bottom of the sea by the help of air conveyed under water - }	185	12th Nov. 1675	{ Goodwin Wharton. William Perkins. James Jones, junior.
Tools, engines, or instruments, to be used without diving, for weighing or recovering from under water ships' guns and goods sunk at sea - - }	210	4th March 1680	{ William Harrington. Cornelius Degleden. Samuel Sawton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Weighing and taking up ships' guns and goods lost at sea.	262	8th Nov. 1689	Francis Smartfoot.
Raising or taking up ships, goods, or bullion that have been sunk at sea or elsewhere.	297	23rd May 1692	Captain John Poyntz.
Mathematical machine for raising ships sunk at sea	321	29th April 1693	John Bushnell.
Machine for raising ships from the bottom of the sea.	398	10th Feb. 1715	Andrew Becker.
Machine for raising ships and other vessels sunk in deep water.	1438	19th June 1784	Joseph Roylance.
Constructing a machine for raising ships that are sunk.	1862	29th March 1792	Lewis Feuillaide.
Apparatus for raising, suspending, and towing into harbour, ships or vessels sunk at sea.	3112	3rd March 1808	Richard Willcox.
Raising sunken vessels and other matters; machinery used for such purposes.	3602	25th Sept. 1812	John Baptist Serny.
Machine for raising sunken vessels - - -	6820	23rd April 1835	William Kemp.
Raising sunken vessels and other bodies - -	7372	12th May 1837	Edward Austin.
Raising or floating sunken and stranded vessels and other bodies.	7696	22nd June 1838	John William Fraser.
Constructing vessels for containing air; applicable to the purpose of raising bodies in or under water; fastening such vessels to chains or other apparatus for raising or lifting such bodies.	8231	3rd Oct. 1839	William Henry Burke.
Raising vessels when sunk - - - - -	8711	21st Nov. 1840	{ William Henry Hutchins. Joseph Bakewell.
Raising sunken vessels - - - - -	10,195	22nd May 1844	James Bremmer.
Apparatus for raising and supporting vessels and other floating or sunken bodies, and its application to the preservation of life and property.	10,811	9th Aug. 1845	Pierre Armand le Comte de Fontainemoreau.
Apparatus and machinery for raising, lifting, and otherwise mooring heavy bodies [ <i>raising sunken vessels by the buoyant power of air or India-rubber balloon-buoys</i> ].	11,509	23rd Dec. 1846	Pierre Frederic Gougy.
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<b>NAVIGATION (PART II.), HARBOURS, LIGHT-HOUSES, BUOYS, AND CANALS.</b>			
<b>X.—Pile-driving; making Coffers and Floating Dams.</b>			
Laying piles without driving - - - - -	127	24th June 1642	{ William Wheeler. John Crupley.
Engine for driving piles for securing piers and defences against the violence of the sea.	196	15th March 1677	Lewis Bayly.
Floating dam to carry lighters and other vessels over flats and shallows in rivers.	377	6th June 1706	Robert Aldersey.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Machine for raising, lowering, drawing, driving, forcing, impressing, or moving bodies, substances, materials, fluids, articles, or commodities [ <i>applicable to pile driving</i> ].	3218	20th March 1809	Simeon Thompson.
Mode of excluding the water of the sea, of rivers or of lakes, temporarily, during the execution of under-water works of masonry or other materials, or permanently for the security of foundations; applicable to the construction of sea-walls, wharfs, piers, docks, and bridges.	3544	5th March 1812	Samuel Bentham.
Working pile-drivers by manual labour - - -	3625	19th Dec. 1812	Thomas Rogers.
Machine called "Bélier hydraulique," or hydraulic ram.	3992	14th March 1816	Pierre François Montgolfier.
Machinery for driving piles - - - - -	8887	17th March 1841	Henry Augustus Wells.
Machinery for driving piles - - - - -	9098	21st Sept. 1841	John Duncan.
Machinery for driving piles - - - - -	9850	24th July 1843	James Nasmyth.
Machinery for driving piles - - - - -	10,028	30th Jan. 1844	Henry Vernon Physick.
Arrangements for constructing harbours and buildings in water [ <i>driving piles</i> ].	10,195	22nd May 1844	James Bremner.
Obtaining and applying motive-power [ <i>pile-driving engines</i> ] - - - - -	11,077	11th Feb. 1846	{ Thomas Clarke. Mark Freeman. John Varley.
Machinery for driving piles, and raising earth and fluids.	11,884	7th Oct. 1847	Joseph Nye.
Obtaining and applying motive-power [ <i>pile-driving engine</i> ] - - - - -	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Machinery partly applicable (with certain modifications) for driving piles.	12,834	6th Nov. 1849	William Edward Newton.
Improvements applicable to machinery for driving piles.	12,931	17th Jan. 1850	Joseph Nye.
Improvements applicable to machinery for driving piles.	13,333	12th Nov. 1850	Joseph Nye.
Machinery applicable to the driving of piles and other similar purposes.	14,315	7th Oct. 1852	Solomon Andrews.
<b>II.—Constructing Harbours, Breakwaters, and other Marine Works.</b>			
New way for gaining firm foundations under water, for erecting and making of piers or walls of stone.	64	30th May 1633	Symon Hill.
Making wet harbours and docks to hold ships from ten to forty feet above high-water mark - - -	223	21st Nov. 1682	{ Thomas Lord Windsor. George Pitt. Creshold Draper.
Floating-docks for docking ships in rivers, harbours, or at sea, and where there is no tide.	1504	4th Nov. 1785	Christopher Watson.
New method to resist or restrain the weight or pressure of solids and fluids, in any lateral or anti-vertical direction [ <i>applying arches in the formation of wharfs, embankments, &amp;c.</i> ]	1793	24th Feb. 1791	Isaac Ashton.
Improvements applicable to the formation of harbours, wharfs, and piers, and the erection of heavy buildings on bad ground.	3429	2nd April 1811	Samuel Bentham.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Method of constructing, laying down, and organizing the main and other pipes for conveyance of water, for the supply of the metropolis, and other cities, towns, and places where public waterworks are adopted, and applying the water so conveyed to a variety of other useful purposes [ <i>constructing docks and harbours so that they may be cleansed of all mud</i> ].	8611	31st Oct. 1812	Joseph Bramah.
Constructing piers - - - - -	4710	27th Sept. 1822	James Frost.
Floating breakwater - - - - -	4887	15th Jan. 1824	John White.
Construction and combination of metallic blocks for forming caissons, jetties, piers, quays, embankments, lighthouses, foundations, walls, or other erections to which such blocks may be applicable.	5522	12th July 1827	Edward Barnard Deeble.
Construction of piers - - - - -	6186	27th Oct. 1831	Sarah Guppy.
Improvements applicable to the construction of piers	6187	31st Oct. 1831	James Macdonald.
Construction of piers and jetties - - - - -	6438	20th June 1833	{ Joseph Gibbs. Augustus Applegath.
Dock to facilitate the repairing, building, or retaining of ships and other floating vessels.	6446	4th July 1833	Alexander Mitchell.
Docks and quays to facilitate the importation and exportation of merchandise.	6924	5th Nov. 1835	Henry Adcock.
Construction of docks - - - - -	7517	19th Dec. 1837	William Henry Pilcher.
Abating or lessening the mischief arising from the force of the waves, and reducing waves to broken water, thereby preventing injury to breakwaters, moleheads, piers, fortifications, lighthouses, docks, wharfs, landing-places, embankments, bridges; also adding security and defence to harbours and other places exposed to the action of the water.	7718	4th July 1838	Joseph Needham Tayler.
Construction of piers - - - - -	7836	17th Oct. 1838	William Edward Newton.
Effecting and forming sheltered floating harbours of safety, by the employment of certain buoyant sea-barriers; also applicable to and useful for the formation of breakwaters, floating bridges, lighthouses, and beacons, the protection of pier-heads, embankments, and for other similar purposes.	9247	8th Feb. 1842	Adderley Willcocks Sleigh.
Breakwaters - - - - -	9674	21st March 1843	{ Joseph Needham Tayler. William Henry Smith.
Construction of breakwaters - - - - -	9680	27th March 1843	Sir Samuel Brown.
Construction of piers, breakwaters, and other similar structures.	9975	5th Dec. 1843	Lawrence Holker Potts.
Arrangements for constructing harbours and buildings in water.	10,195	22nd May 1844	James Bremner.
Formation of embankments for canal docks or sea walls.	10,790	29th July 1845	Sir Samuel Brown.
Formation of permanent and temporary harbours, docks, and similar works; apparatus employed therein.	11,292	14th July 1846	George Knight.
Construction of piers and harbours - - - - -	11,499	21st Dec. 1846	Peter Borrie.
Construction of piers or breakwaters and other submarine works of stone.	11,640	25th March 1847	William Bruce.
Dock to facilitate the repairing, building, or retaining of ships and other floating vessels;—partly applicable to other purposes.	11,777	3rd July 1847	Alexander Mitchell.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Founding and constructing piers and breakwaters;— in part applicable to other structures.	12,199	3rd July 1848	Nathaniel Beardmore.
Breakwaters - - - - -	12,630	5th June 1849	William Henry Smith.
Docks and slips, and apparatus connected therewith	13,330	9th Nov. 1850	James Scott.
Construction and manufacture of sewers, drains, waterways, pipes, reservoirs, and receptacles for liquids or solids, from a substance not hitherto used for the purpose [ <i>making marine foundations</i> ].	13,698	22nd July 1851	Thomas Earl of Dun- donald.
Construction of docks, basins, railways, and appa- ratus connected therewith, for raising or removing vessels or ships out of the water, or on to dry land, for the purpose of preserving or repairing the same.	14,127	17th May 1852	William Edward Newton.
<b>III.—Lighthouses.</b>			
Distinguishing lights for the convenience of sailors, to enable them to ascertain their position by night and day.	517	14th July 1730	Captain Robert Hamblin.
Fixed and moveable telegraphic lighthouse - - -	3253	3rd Aug. 1809	Frederick Albert Urnson.
Formation of lighthouses [ <i>by the use of buoyant sea- barriers</i> ].	9247	8th Feb. 1842	Adderley Willcocks Sleigh.
Constructing and erecting lighthouses fixed and floating; apparatus connected therewith.	9680	27th March 1843	Sir Samuel Brown.
Apparatus for lighthouses, signal, floating, and har- bour lights.	13,318	7th Nov. 1850	William Crane Wilkins.
<b>IV.—Beacons, Buoys, and their Moorings.</b>			
Machine for the prevention of drowning; "Life- buoy."	2847	14th May 1805	John Edwards.
A floating hollow buoy on a new construction, for supporting mooring chains, cables, ropes, &c.	3025	8th April 1807	James Peache.
Construction of buoys for ships, and for mooring chains, and for similar purposes.	3379	26th Sept. 1810	Peter Joseph Brown.
Implements for navigation as a nunbuoy and beacon buoy.	3866	20th Dec. 1814	Robert Dickinson.
Buoys of various kinds, as beacon, can, nun, moor- ing, and life buoys;—applicable to other purposes.	4040	11th June 1816	John Foulerton.
Sea-beacons and their moorings - - - - -	4170	1st Nov. 1817	Robert Dickinson.
Improvements applicable to the formation of bea- cons and other erections [ <i>by the use of buoyant sea-barriers</i> ].	9247	8th Feb. 1842	Adderley Willcocks Sleigh.
Construction of buoys and other water marks -	9670	18th March 1843	Wakefield Pim.
Beacons - - - - -	9674	21st March 1843	{ Joseph Needham Tayler. William Henry Smith.
Constructing and erecting beacons, fixed and float- ing; apparatus connected therewith.	9680	27th March 1843	Sir Samuel Brown.
Buoys; and giving buoyancy to boats - - -	11,356	29th Aug. 1846	Arthur Howe Holdsworth.
Apparatus for buoying up persons, boats, and other bodies when in the water.	11,802	19th July 1847	Edward Light.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Beacons and moorings;—applicable to other purposes	12,630	5th June 1849	William Henry Smith.
Construction and building of buoys and appliances for preserving life and property at sea.	13,502	10th Feb. 1851	Joseph Haythorne Reed.
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<b>V.—Constructing Canals and Locks.</b>			
Constructing locks for navigable canals - - -	1814	2nd July 1791	James Playfair.
Constructing a machine for cutting canals - - -	1862	29th March 1792	Lewis Feuillade.
Constructing navigable canals without the use or necessity of locks.	1958	18th June 1793	Joshua Green.
Machinery for making and cleansing canals - - -	1964	16th Oct. 1793	Joseph Sparrow.
Machinery for forming and constructing navigable canals;—applicable to other purposes - - -	1981	18th March 1794	{ Edward Rowland. Exuperius Pickering.
Machine, instrument, or engine, for raising, removing and carrying earth, stones, rubbish, or anything of the like nature, in the making of canals, navigable cuts, or any other great and important work.	2220	10th March 1798	Henry Goolding.
Conservative lock, for the use of inland and canal navigation.	2732	5th Aug. 1803	Michael Logan.
Canals - - - - -	2912	20th Feb. 1806	John Woodhouse.
Canals - - - - -	3324	6th April 1810	John Woodhouse.
Constructing and building locks with a groin or gothic conic arch; form of the gates; opening and shutting the same.	3376	7th Sept. 1810	David Mathews.
Method of constructing, laying down, and organizing the main and other pipes for conveyance of water, for the supply of the metropolis and other cities, towns, and places where public waterworks are adopted, and applying the water so conveyed to a variety of other useful purposes [ <i>constructing canals so that they may be easily cleansed</i> ].	3611	31st Oct. 1812	Joseph Bramah.
Constructing the locks and sluices of canals, basins, or docks.	3670	23rd March 1813	Col. William Congreve.
Constructing locks of canals, docks, and navigations; also constructing improvements for locks of canals, docks, and navigations already existing, by means of which the loss of any quantity less than the whole quantity of the water now lost, when vessels of any description pass locks constructed after any of the present known methods, will be prevented.	3683	14th April 1813	Charles Augustin Busby.
Construction and use of apparatus and works for inland navigation [ <i>self-acting flood gate or sluice</i> ].	5319	16th Jan. 1826	Henry Anthony Koymans.
Machinery for cutting and removing earth, applicable to the digging of canals.	8017	27th March 1839	William Newton.
Formation of canals; apparatus employed therein -	11,292	14th July 1846	George Knight.
Construction of locks and other erections wholly or in part constructed of metal.	13,500	10th Feb. 1851	Richard Stuart Norris.
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Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
<b>VI.—Supplying Locks; Navigating Canals.</b>			
Machine for raising water to float ships - - -	472	4th Nov. 1724	Robert Bumpstead.
Machine for raising boats from a lower to a higher level, without the aid of fire or wind.	1768	14th Jan. 1791	Joseph Brooks.
Machine for conveying vessels or other weights from an upper to a lower level, and vice versa, on canals.	1892	19th June 1792	Robert Weldon.
Supplying canals or other cuts, ponds, or sluices, with water.	1905	28th July 1792	John Longbotham.
Machine or engine for conveying vessels and their cargoes from one level to another on canals, without locks.	1988	8th May 1794	Robert Fulton.
Saving water at the locks of navigable canals -	2021	11th Nov. 1794	John Price.
Machinery for the purpose of lifting, drawing, and conveying loaded and light vessels from one canal or branch of canal to another, on a slope or plain surface, in lieu of stone or other locks.	2126	4th July 1796	John Luke.
Saving part of the water heretofore wasted in passing boats or barges through locks or navigable canals.	2213	1st Feb. 1798	Henry Clay.
Machine for lifting, raising, and conveying boats, vessels, or other things, from one level to another on canals and rivers, so as to save water and prevent tunnelling - - -	2255	3rd Aug. 1798	{ Philip Chell. Henry Nickholls.
Balance-engine for raising and lowering boats, barges, or troughs, at the locks or falls on inland canals, and for other purposes.	2284	24th Dec. 1798	James Fussell.
Conveying boats or barges from a higher to a lower level, and vice versa, on canals, &c.	2462	30th Dec. 1800	Lawson Huddleston.
Raising and lowering vessels from one level to another in navigable waters.	3702	31st May 1813	Charles Broderip.
Machine for passing boats, barges, and other vessels from a higher to a lower level, and the contrary, without loss of water.	3904	4th April 1815	Thomas Bagot.
Method of raising and lowering water in canal locks	4302	10th Nov. 1818	John Bogaerts.
Machinery or apparatus for passing boats or other floating bodies from a higher to a lower level, or vice versa.	5536	13th Aug. 1827	John Underhill.
Transferring vessels from one level to another on canals, by means of tanks.	5646	1st May 1828	Jonathan Brownill.
Passing boats and other bodies from one level to another.	7092	13th May 1836	Thomas Grahame.
Traction on canals, waters, or ways - - -	10,141	10th April 1844	John Aitkin.
Apparatus for regulating the levels of water in rivers, reservoirs, and canals.	12,584	26th April 1849	Thomas Harcourt Thompson.
Canal navigation - - -	13,306	2nd Nov. 1850	Archibald Slate.
Machinery or apparatus for obtaining motive-power [opening and closing locks, dock-gates, swivel-bridges, &c., by the force of a column of water].	13,779	17th Oct. 1851	Richard Roberts.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
<b>VII.—Dredging and enlarging Rivers; cleansing Docks and Canals.</b>			
Making locks, sluices, bridges, cuts, cranes, mills, dams, and other inventions, necessary and convenient for making rivers navigable.	3	1st July 1617	John Cason.
Water plough for taking up sands or banks out of the river Thames, or other places.	9	16th July 1618	John Gilbert.
Engines for making rivers navigable - - -	14	2nd June 1619	John Cason.
Cutting, contriving, erecting, perfecting and making locks, sluices, bridges and dams, for making rivers and streams navigable, with power to pass and row upon the same with boats, keels, and other vessels, and to collect tolls from all persons passing down the same.	36	3rd Jan. 1627	Arnold Spencer.
Engines or water ploughs for taking sand, gravel, shells and banks, out of rivers, harbours, and other places.	55	8th July 1631	John Gilbert.
New-invented remedy and way for taking away bars or beds of sand and gravel, either in the river Thames or any other rivers.	64	31st May 1663	Symon Hill.
Engine for enlarging rivers - - -	105	17th May 1637	Robert Chiver.
Cutting, contriving, framing, erecting and perfecting locks, sluices, bridges, cuts and dams, for making rivers and streams navigable, with power to collect tolls from all persons passing down the same.	122	11th Dec. 1638	Arnold Spencer.
Engine for making rivers navigable - - -	150	16th May 1666	Lewis Bayly.
Engine for cutting new rivers; also for deepening, clearing, and removing sand, gravel and earth in rivers, to make them navigable.	168	26th Feb. 1672	Edward Lee.
Engine for cleansing and digging rivers, harbours, and havens.	169	3rd April 1673	Lewis Bayly.
Engine working with nets for taking up from under water gravel, sand, shingle, and other soil fit for ballasting ships, and other uses; also capable of removing sand, shoals, and other obstructions in rivers without making holes, or doing anything prejudicial to the navigation.	196	15th March 1677	Lewis Bayly.
Inventions under water for scouring rivers, harbours, channels, creeks, roads, rivulets, milldams, &c., which are dammed, choked, and almost filled up with sand, mud, gravel, &c.	320	17th April 1693	Captain John Poyntz.
Machine for taking up ballast, sullage, sand, &c.; useful in cleansing rivers, harbours, &c.	391	3rd April 1712	Israel Pownoll.
Machine for cleansing docks, rivers, ponds, and other places.	472	4th Nov. 1724	Robert Bumpstead.
Machine for emptying docks - - -	507	10th March 1729	{ Thomas Bewley. Thomas Holtham.
Engine for cleansing rivers and wharfs choked with sand or gravel.	595	5th Jan. 1744	John Gregory.
Engine for raising and taking up ballast from the bottom of rivers, and for other purposes.	598	21st Jan. 1744	Lewis Pantin.
Machines or vessels for removing earth, ballast, sand, rubbish, or any other matter.	682	12th April 1753	Richard Liddell.
Machine for making rivers navigable - - -	720	12th Jan. 1758	Thomas Bridge.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Keels or vessels for taking ballast out of ships, sand beds out of rivers, and for other purposes.	785	3rd March 1763	Charles Burne.
Machine for raising ballast - - - -	1734	13th March 1790	James Tate.
Machine for cleansing and deepening harbours and ports, and for other purposes.	1802	29th March 1792	Lewis Feuillade.
Method of raising, removing and delivering earth or water, by which rivers, canals or fish ponds may be made or emptied; also for raising coals, limestone and other stones out of any boat, barge, or vessel in a navigable river or canal, and delivering the same upon the wharf or shore, or into any waggon, cart or other carriage, engine or machine for these purposes.	1904	16th Oct. 1793	Joseph Sparrow.
Machinery for raising and carrying away stones, mud, sand, ballast or any other thing, and for emptying, raising and conveying the same out of canals, rivers, ponds, and pits; applicable to other purposes.	2004	29th July 1794	William Sladen.
Machinery for raising and removing earth, sand, gravel, clay, stone or other things, from the bottom of canals or other places to the surface, or higher if required.	2080	24th Aug. 1795	Nathaniel Heckford.
Machinery for raising and removing earth, sand, gravel or any other things, from the bottom of canals.	2115	31st May 1796	Edward Haskew.
Machine for cleansing creeks, harbours, or bars of harbours, also sand banks or shoals at sea, by the power of the tide or current.	2323	26th June 1799	Stephen Hooper.
Machinery for cleansing and deepening dry harbours, rivers and creeks;—partly applicable to other purposes.	2453	4th Dec. 1800	Stephen Hooper.
Machine for cleansing rivers, harbours, &c. - - -	2554	10th Nov. 1801	Stephen Hooper.
Machinery for cleansing bars of harbours, creeks, &c., and preventing the formation of bars; method of using the same.	2679	5th Feb. 1803	Stephen Hooper.
Mechanical apparatus for raising ballast;—applicable to other purposes.	2807	16th Jan. 1805	Edward Shorter.
Machinery for cleansing rivers, dry harbours, docks, bars of harbours, and for other purposes.	2933	3rd May 1806	Stephen Hooper.
Machinery for removing sunken rocks and other obstructions in rivers, harbours, and channels.	3112	3rd March 1808	Richard Willcox.
Apparatus for raising gravel or earth from the bottom of rivers and pits, and for screening and delivering the same into barges or other receptacles.	3672	27th March 1813	John Hughes.
Dredging, cleansing, or deepening rivers and harbours.	3741	18th Oct. 1813	Robertson Buchanan.
Clearing out watercourses [canals] - - - -	5898	4th Sept. 1828	William Farish.
Means and machinery for deepening and excavating beds of rivers, removing sand-banks, bars, and other obstructions to navigation.	6367	19th Jan. 1832	Thomas Affleck.
Means and machinery for deepening and excavating beds of rivers, removing sand-banks, bars, and other obstructions to navigation.	6522	11th Dec. 1833	Thomas Affleck.
Cleansing the bottoms of docks, rivers and other waters.	7789	30th Aug. 1838	Henry Knill.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>NAVIGATION, &amp;c.—continued.</b>			
Cleansing the bottoms of docks, &c. - - -	7790	30th Aug. 1838	Lawrence Heyworth.
Application of machinery to steam vessels for the removal of sand, mud, soil and other matters, from the sea, rivers, docks, harbours, and other bodies of water.	8848	16th Feb. 1841	William Scamp.
Machinery for excavating soil [ <i>applicable for dredging</i> ].	9281	7th March 1842	John Duncan.
Arrangements for cleansing harbours - - -	10,195	22nd May 1844	James Bremner.
Excavating and dredging; apparatus employed therein.	11,292	14th July 1846	George Knight.
Machinery for dredging - - - - -	11,343	19th Aug. 1846	Samuel Haven Hamilton.
Dredging-machines - - - - -	12,356	19th Nov. 1850	Paul de Tolstoy.
Preventing and removing the deposit of sand, mud, or silt in tidal rivers, also in harbours, docks, basins, guts, and other channels communicating with the sea through tidal rivers, or otherwise applicable in certain cases to other rivers and moving waters - - - - -	14,042	24th March 1852	{ William Cole. Alfred Holt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>O.</b>			
<b>OILS AND OILING.</b>			
<b>I.—Making, refining, and treating Oils.</b>			
Making an oil to be used for preventing the formation of rust and canker on armour and arms -	4	1st July 1617	{ John Casper Wolfen. John Miller.
Making oil from rapeseed and other like seeds sown in England and Wales.	80	16th Dec. 1624	Benedict Webb.
Mills for making oil to be used in lamps - - -	103	10th Feb. 1637	Thomas Tookey.
Press for extracting oil from rapeseed and linseed -	169	3rd April 1673	Lewis Bayly.
Extracting oil from out of a certain kind of stone -	330	29th Jan. 1694	{ Martin Erle. Thomas Hancock. William Portlock.
Making green oil for use in the woollen manufacture, and for making soft soap; the same oil is also edible.	383	— — 1708	Robert Pease.
Expressing oil from the fruit or triangular seed of the beech-tree.	393	23rd Oct. 1713	Aaron Hill.
Extracting sweet oil from an English vegetable, for use in the woollen manufacture, soap-making, leather trades, &c.	404	25th June 1716	Augustin Wollaston.
Making oil from roach or roof stone, by fluxing with fire only.	405	29th June 1716	Talbot Edwards.
Expressing sweet oil from a certain English seed, for use in the woollen manufacture, also for painters, leather-dressers, &c.	408	12th Sept. 1716	Arthur Bunyan.
Expressing a sweet oil from seeds the growth of Great Britain, useful to soap-makers and to the clothing trade.	411	16th Feb. 1717	Thomas Smith.
Meliorating oil - - - - -	428	7th May 1720	John Marten.
Extracting oil or grease from the flesh of swine, for use in the woollen manufacture.	548	15th March 1734	Samuel Simpson.
Use of a seed to obtain oil applicable to house-painting.	583	10th April 1742	William Cogan.
Extracting oil from a flinty rock, for the cure of rheumatism, also scorbutic and other complaints	587	14th Aug. 1742	{ Michael Betton. Thomas Betton.
Use of a vegetable productive of sweet, fine, and wholesome oil, especially useful for the manufacturing of wool, and which may be cultivated in England - - - - -	608	6th Sept. 1744	{ Nicholas Belli. Anthony Gualterai.
Refining, purifying, and meliorating rape oil -	631	16th April 1748	Daniel Bridges.
Making black train-oil - - - - -	691	23rd May 1754	Peter Zomer.
Method of taking off the disagreeable and rank smells of all sorts of oils, and scenting them with different aromatic smells.	916	10th Feb. 1769	Arnold Finchiatt.
Extracting and making oil from a certain mineral -	1015	30th April 1772	Christian Wilhem Baron Van Haacke.
Refining oil by steam - - - - -	1492	27th July 1785	Sutton Thomas Wood.
Machine to be used in extracting oil from seeds -	1597	4th April 1787	John Smeaton.
Whale oil - - - - -	1634	20th Dec. 1787	Thomas Barber Bryant.
Extracting, hardening, purifying and whitening the bottoms, foots, or flush of whale oil, or the sediments of seal oil, or any other fish oil, chiefly for making candles.	1709	6th Nov. 1789	Moses Hart.
Depurating and improving animal oil - - -	1864	5th April 1792	Charles Gower.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>OILS AND OILING—continued.</b>			
Freeing fish oils from their impurities; instrument for ascertaining their qualities and assisting their burning.	2279	12th Dec. 1798	Joshua Collier.
Oil extracted from certain vegetable substances -	2292	5th Feb. 1799	Hezekiah Beers Pierpont.
Procuring a greater quantity of oily substances from various articles than has hitherto been usual.	2827	9th March 1805	John Baptiste Denzie.
Purifying, refining, &c., fish oils and other oils; converting and applying to use the unrefined parts thereof.	2994	13th Dec. 1806	William Speer.
Increasing the inflammability and combustion of oils used for burning; improving the light obtained therefrom; particularly applicable to oils refined according to the patent process.	3325	6th April 1810	William Speer.
Producing a valuable oil - - - - -	3507	21st Nov. 1811	Charles Random De Berenger.
Extracting the gross or mucilaginous matter from whale oil produced from flukes or Greenland blubber, when boiled.	3769	20th Dec. 1813	William Allamus Day.
Sweetening, purifying, and refining Greenland whale and seal oil.	3824	26th July 1814	Henry William Vander Kleff.
Oil-mills - - - - -	4003	23rd March 1816	Joseph Bowles.
Preparation and application of vegetable oil - -	4660	21st March 1822	William Eugène Edward Conwell.
Refining oil produced from seed - - - - -	4739	20th Dec. 1822	Matthias Wilks.
Machinery for expressing oil from linseed, rapeseed, or other oleaginous seeds or substances, by pressure.	4787	22nd April 1823	John Hall.
Apparatus for melting and refining oils - -	4805	19th June 1823	James Smith.
Manufacturing or preparing oil from certain vegetable substances, and applying the same to gaslight and other purposes [ <i>from resin, by distillation</i> ].	5306	6th Dec. 1825	Edmund Luscombe.
Screw press used in expressing oil, extracts, or tinctures.	5863	23rd May 1826	Daniel Dunn.
Machine for grinding or crushing seeds and other oleaginous substances, for the purpose of expressing oil therefrom.	5466	20th Feb. 1827	William Benecke.
Machine for grinding or crushing seeds, &c., in order to extract oil therefrom.	6043	6th Dec. 1830	Henry Blundell.
Manufacture of useful products from an oleaginous substance [ <i>preparing from palm-oil, an oil suitable for burning in lamps, also a concrete substance for making candles</i> ] - - - - -	6121	2nd June 1831	{ Nicolas Hegisippi Manicler. James Collier.
Extraction of oleaginous matter from a certain foreign vegetable kernel, and application of the same to the making of oil and other articles of commerce [ <i>palm nut</i> ].	6256	13th April 1832	John Demeur.
Obtaining oil from certain substances - - - -	6375	29th Jan. 1833	Richard Butler.
Refining and purifying oils - - - - -	6441	26th June 1833	{ Charles Terry. William Parker.
Bleaching certain animal fats, and certain animal, vegetable, and fish oils.	6646	17th July 1834	William Septimus Losh.
Obtaining certain oils - - - - -	6796	18th March 1835	Henry Walker Wood.
Improvements applicable to the purification of oleaginous bodies, both animal and vegetable.	6985	21st Jan. 1836	Robert Bowie.
Preparing, purifying and refining animal and vegetable oils.	7028	8th March 1836	Charles Watt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>OILS AND OILING—continued.</b>			
Bleaching and purifying oils suitable for mixing paints, and with other oils and fatty matters.	7284	19th Jan. 1837	William Gossage.
Preparation of palm oil to render it applicable to the woollen manufacture, lubricating machinery, and for other purposes.	7451	26th Oct. 1837	Miles Berry.
Purifying and solidifying oils and oleaginous substances.	8457	30th March 1840	Claude Joseph Edmee Chaudron Junot.
Treating, refining, and purifying oils - - -	8500	9th May 1840	Miles Berry.
Preparing and purifying whale oil - - -	8566	11th July 1840	Joseph Getten.
Apparatus for preserving and purifying oils - -	8621	10th Sept. 1840	Samuel Parker.
Purifying and solidifying oils - - -	8686	5th Nov. 1840	George Delianson Clark.
Purifying vegetable and animal oils for soap-making or burning in lamps;—applicable to the purifying of the mineral oil or spirit called naphtha.	8752	23rd Dec. 1840	David Walther.
Obtaining or producing oil - - -	8789	31st Dec. 1840	Louis Holbeck.
Apparatus for purifying and disinfecting oily substances, both animal and vegetable.	8854	22nd Feb. 1841	William Newton.
Method of extracting or manufacturing from a certain vegetable substance, certain materials applicable to the purposes of affording light and other uses [ <i>expressing oil from cocoa-nuts</i> ].	8280	19th Jan. 1842	William Tindall.
Treating, refining, and purifying oils and other similar substances.	9264	21st Feb. 1842	Moses Poole.
Disinfecting oils - - -	9664	16th March 1843	Angier March Perkins.
Treating, purifying and bleaching oils and fatty matters.	9682	28th March 1843	Arthur Dunn.
Treating oil obtained from vegetable matters - -	9687	4th April 1843	Joseph Browne Wilks.
Treating oils when used to fix metallic powders and metal leaf.	10,011	13th Jan. 1844	Henry Bessemer.
Manufacture of oils by using a material not hitherto employed [ <i>purifying oils by means of pulverized oyster-shells</i> ].	10,253	10th July 1844	Moses Poole.
Manufacture of oil from a vegetable not hitherto so used.	10,262	15th July 1844	William Taylor.
Refining and purifying animal and vegetable oils -	11,112	25th Feb. 1846	Peter Bancroft.
Treating oils - - -	11,409	8th Oct. 1846	Michel Louis Ferant.
Apparatus for disinfecting and purifying oils and other inflammable or spirituous matters.	11,623	16th March 1847	Jean Joseph Hazard Petit.
Instrument to be used in <i>crushing</i> or expressing oil from vegetable and other substances, and in making oil-cake, and which instrument is applicable to the moulding, pressing, and manufacturing the same and other articles from plastic materials. [ <i>The words printed in italics were disclaimed.</i> ]	11,660	15th April 1847	James Robson.
Manufacturing oil from certain nuts, and producing a vegetable substance.	11,774	3rd July 1847	Joseph Browne Wilks.
Materials for purifying or decolorizing bodies, which materials may also be employed as manure and pigments, and for other purposes [ <i>materials for purifying oils, &amp;c.</i> ].	11,790	12th July 1847	Robert William Sievier.
Manufacture and purification of oils - - -	11,960	11th Nov. 1847	Charles Blachford Mansfield.
Purification of certain oils and spirits - - -	11,965	16th Nov. 1847	George Phillips.
Manufacture of oil from blubber - - -	12,055	8th Feb. 1848	William Heywood Glover.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>OILS AND OILING—continued.</b>			
Manufacture of oils - - - - -	12,072	18th Feb. 1848	{ Edward Duncombe Lines. Samuel Luz Freemont.
Manufacture of gas for illumination; manufacture of the residual products into articles of commerce [separating and collecting oil or oleaginous matter from the gaseous products of resinous distillation].	12,203	6th July 1848	Joseph Clinton Robertson.
Expressing and treating oils - - - - -	12,611	15th May 1849	{ Henry Bessemer. John Sharp Cromartie Heywood.
Generation and application of heat [for purifying and bleaching vegetable oils.]	12,738	9th Aug. 1849	Thomas John Knowlys.
Manufacture of oils - - - - -	13,056	23rd April 1850	Charles Humfrey.
Treating fatty, oleaginous, resinous, bituminous, and cerous bodies; manufacture and application of them and of their components and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [purifying oils and fats] - - - - -	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Purifying or filtering oils and other liquids - - -	13,462	18th Jan. 1851	John Lienau.
Separating and refining oily matters - - - -	13,636	19th May 1851	Hugh Barclay.
Improvements applicable, with certain modifications, to extracting oleaginous and other matters, and to compressing in general.	13,916	24th Jan. 1852	Pierre Armande le Comte de Fontainemoreau.
Purification and decoloration of oils, apparatus employed therein.	13,946	31st Jan. 1852	Richard Archibald Brooman.
Manufacture of resin oil - - - - -	13,972	14th Feb. 1852	Hermann Turck.
Disinfecting essential oils - - - - -	14,217	12th July 1852	Thomas Jordan.
Preparing oils for burning - - - - -	14,297	18th Sept. 1852	George Hutchison.
Treating cotton seeds, obtaining products therefrom, &c.	14,338	2nd Nov. 1852	Joseph Walker.
<b>II.—Oiling or Lubricating.</b>			
Apparatus for greasing carriage-wheels without taking them from the axle.	1508	10th Nov. 1785	Robert Berriman.
Box for supplying oil to the wheels of carriages, and to other wheels.	1697	27th Aug. 1789	James Norton.
Lubricating pistons, piston-rods, and valves or cocks of steam, gas, and other engines.	6204	22nd Dec. 1831	Samuel Hall.
Lubricating the pistons, piston-rods, and valves of steam-engines.	6359	9th Jan. 1833	Samuel Hall.
Lubricating the piston-rods of steam-engines and of other machinery.	9466	8th Sept. 1842	Thomas Thirlwall.
Oiling or lubricating axles of locomotive-engines and carriages, and bearings of machinery.	9724	15th May 1843	William Edward Newton.
Lubricating bearings of machinery - - - -	10,594	7th April 1845	John Dewrance.
Lubricating railway and other machinery - -	10,707	5th June 1845	William Palmer.
Apparatus for lubricating shafts and bearings of roving-machines, for the purpose of reducing friction;—applicable to other shafting and machinery - - - - -	10,725	19th June 1845	{ Charles Hague. William Madeley.
Materials employed in constructing and working atmospheric railways [lubricating tubes].	10,982	6th Dec. 1845	John Robert Johnson.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>OILS AND OILING—continued.</b>			
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>lubricating by the use of tubes filled with porous matters</i> ].	11,149	25th March 1846	Charles Smith.
Diminishing draught and friction in carriages [ <i>lubricating apparatus</i> ].	11,873	17th Sept. 1846	Henry Wrigg.
Lubricator [ <i>apparatus</i> ] - - - - -	11,487	14th Dec. 1846	James Carter.
Manufacture of looped and woven fabrics [ <i>oiling black hosiery</i> ] - - - - -	11,572	8th Feb. 1847	{ Uriah Clarke. Henry Barber.
Lubricating journals or other portions of machinery, by the introduction of aqueous, alkaline, oleaginous, or saponaceous solutions.	12,143	2nd May 1848	William John Normanville.
Lubricators [ <i>apparatus</i> ] - - - - -	12,673	26th June 1849	Thomas Wood Grey.
Applying oil or grease to wheels, axles, and machinery.	12,925	11th Jan. 1850	James M'Donald.
Method of lubricating machinery [ <i>lubricating axles of carriages, metallic pistons, and working parts of engines</i> ].	13,077	22nd May 1850	Henry Columbus Hurry.
Apparatus for lubricating machinery - - - - -	13,767	9th Oct. 1851	Henry Briggs.
Machinery for the preparation and manufacture of fibrous materials [ <i>lubricating spindle and other bearings</i> ] - - - - -	13,784	22nd Oct. 1851	{ John Platt. Christian Schiele.
Apparatus for lubricating machinery - - - - -	13,927	27th Jan. 1852	Jean Benjamin Coquatrix.
Spinning cotton-wool and other fibrous materials; apparatus for constructing parts of machines used in such manufactures [ <i>lubricating the spindles and bearings of spinning and other machinery</i> ] - - - - -	14,140	22nd May 1852	{ John Mason. George Collier.
Apparatus or waggon used for moving and conveying slate and stone [ <i>lubricating the axles of such waggons</i> ] - - - - -	14,165	12th June 1852	{ Edwin John Jeffery Dixon. Arthur John Dodson.
Locomotive-engines, partly applicable to other engines [ <i>grease-boxes</i> ].	14,176	24th June 1852	Jean Baptiste George Laudet.
Construction of wheels for carriages [ <i>lubricating the axles</i> ].	14,249	31st July 1852	William Edward Newton.
<b>III.—Lubricating Materials and Compounds.</b>			
Extracting tallow or other liquid substance from bones - - - - -	89	18th March 1636	{ Edward Biddle. Thomas Osbaldstone.
Grease for frictions, preserving steel and iron, and for other uses.	1040	3rd April 1773	John Liardet.
Producing tallow or fat - - - - -	2330	16th July 1799	Wilson Fitzgerald.
Composition to prevent to a great degree the effects of friction.	3573	6th June 1812	Henry Thomas Hardacre.
Combinations of materials for greasing axle-bearings of carriages, and the axles, spindles, and bearing parts of machinery; "Patent axle-grease and lubricating fluid."	9814	14th April 1835	Henry Booth.
Lubricating matter for wheels and axles, applicable also to the bearings or other parts of machinery.	8949	6th May 1841	Thomas Holcombe.
Preparing and combining animal, vegetable, and mineral substances applicable to the manufacture of lubricating compositions [ <i>castor-oil in combination with tallow or lard, or with other oils</i> ].	11,656	15th April 1847	Samuel Childs.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>OILS AND OILING—continued.</b>			
Manufacture of grease or compositions for atmospheric pipes, and for lubricating axles and moving parts of machinery.	11,674	27th April 1847	Thomas Denne.
Steam engines [ <i>lubricator for steam engines</i> ] - - -	11,764	22nd June 1847	{ James Soutter. William Frederick Hammond.
Compounds or mixtures to be used for lubricating machinery.	12,109	4th April 1848	Michael Joseph John Donlan.
Manufacture of gas for illumination; manufacture of the residual products into articles of commerce [ <i>manufacturing an anti-friction grease from oil the product of resinous distillation</i> ].	12,203	6th July 1848	Joseph Clinton Robertson.
Manufacture of materials for lubricating machinery	12,571	16th April 1849	William Little.
Composition of matter to be used as a substitute for oil in the lubrication of machinery.	12,596	1st May 1849	Alexander Munkittrick.
Preparing oils for lubricating purposes - - -	12,940	24th Jan. 1850	Auguste Reinhard.
Treating fatty, oleaginous, resinous, bituminous, and cerous bodies; manufacture and application of them and of their components and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [ <i>application of chemical compositions to lubricating purposes</i> ]	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Distilling and treating organic substances and bituminous matters, and treatment of their products, together with the apparatus used for the purpose [ <i>obtaining a lubricating material</i> ].	13,855	10th Dec. 1851	Etienne Alexander Armand.
Lubricating compound [ <i>for wool</i> ] - - -	13,961	9th Feb. 1852	{ John Dennison. David Peel.
Lubricating preparation for spinning and other machinery.	14,162	10th June 1852	Thomas Wilkes Lord.
Preparing oils for lubricating and burning [ <i>combining oleic ether with oils</i> ].	14,297	18th Sept. 1852	George Hutchison.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>OPTICAL INSTRUMENTS.</b>			
<b>I.—Telescopes, Microscopes, Tubes, and Lenses.</b>			
Portable microscope - - - - -	588	17th Feb. 1743	George Lindsay.
Making small perspective glasses, with mathematical and other instruments and twees in the same case, with and without microscope or magnifying glasses.	640	7th Feb. 1749	Thomas Ribright.
Refracting telescope, with four spherical lenses -	656	25th May 1750	{ George Adams. Richard Jack.
Making object glasses of refracting telescopes, by compounding mediums of different refractive qualities.	721	19th April 1758	John Dollond.
Constructing and making refracting telescopes with object-glasses.	976	28th Dec. 1770	Henry Pyefinch.
Making reflecting telescopes with more than two specula to be used by the same person at the same time, whereby their magnifying power and uses are increased; also, two persons are enabled to view the same object at the same time, and with the same telescope.	1069	27th April 1774	Thomas Short.
Telescopes, microscopes, and other optical instruments	1252	10th April 1780	William Storer.
Drawing-tubes, plated with silver or gold on copper or other metal, for the construction of telescopes, perspectives, opera-glasses, and other instruments.	1316	14th Jan. 1782	Joshua Lover Martin.
Preparing and making optic glasses ("Syllepsis glasses"); application thereof to optical instruments in general.	1407	12th Dec. 1783	William Storer.
Refracting telescope and other optical instruments -	1473	26th April 1785	Robert Blair.
Construction of telescopes, microscopes, and other optical instruments.	1515	14th Dec. 1785	Hugh Dixon.
Reflecting telescope and other dioptrical instruments	1800	4th April 1791	Robert Blair.
Making, moulding, and forming glass lenses - -	1831	18th Oct. 1791	James Smethurst.
Apparatus to exhibit the phenomena of the moon; "Selenographia."	2144	5th Nov. 1796	John Russell.
Military and naval telescope - - - - -	2289	26th Jan. 1799	Cater Rand.
Making telescopes portable - - - - -	2407	30th May 1800	Dudley Adams.
Day or night telescopes - - - - -	2916	18th March 1806	{ Charles Robert West. William Bruce.
Machine or apparatus whereby objects in the sea or clear water can be discerned from the surface.	3112	3rd March 1808	Richard Willcox.
Telescopes - - - - -	3295	23rd Jan. 1810	Joseph Manton.
Telescope with a table or stand, for viewing distant objects, and for other purposes.	3436	5th April 1811	Cornelius Varley.
Telescopes and other instruments - - - - -	3453	21st May 1811	{ Edward Brewster. William Harris.
Optical instruments and apparatus - - - - -	3781	12th Feb. 1814	William Francis Hamilton.
Dioptric telescopes - - - - -	3876	20th Jan. 1815	Jean Rondoni.
Construction of paper and vellum tubes for telescopes; optical parts of telescopes.	3889	7th March 1815	Dudley Adams.
Optical instruments - - - - -	10,625	17th April 1845	Peter Piggott.
Formation of permanent and temporary harbours, docks, and similar works, and apparatus employed therein [ <i>submarine telescope</i> ].	11,292	14th July 1846	George Knight.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>OPTICAL INSTRUMENTS—continued.</b>			
Nautical instruments; manufacture of cases for containing instruments, goods, or merchandise [making telescopes].	12,059	8th Feb. 1848	William Peter Piggott.
Manufacture of lenses [dioptric lenses for carriage lights, sea lights, and land lights generally].	14,070	17th April 1852	Alfred Vincent Newton.
<b>II.—Spectacles and Opera-glasses.</b>			
Spectacles and opera-glasses - - - - -	1252	10th April 1780	William Storer.
Constructing spectacles - - - - -	1359	13th March 1783	Addison Smith.
Construction of spectacles and other optical instruments.	1515	14th Dec. 1785	Hugh Dixon.
Spectacles, removing all pressure from the temple and nose.	2155	23rd Jan. 1797	Dudley Adams.
Machine to be applied to glasses and pebbles for the use of sights in general.	2187	4th July 1797	John Richardson.
Improvements in spectacles, by the application of concavo-convex glasses.	2752	9th Feb. 1804	William Hyde Wollaston.
Mounting opera-glasses - - - - -	2779	4th Aug. 1804	William Warris.
Frames of eye-glasses - - - - -	5124	15th March 1825	Robert Brettell Bate.
Instruments applicable to the organ of sight [having reflectors to exhibit objects behind].	5359	6th May 1826	Alexander Allard de la Court.
Preparing certain transparent substances for spectacles and for other purposes - - - - }	6224	16th Feb. 1832	{ George Solomons. Elias Solomons.
Constructing or making spectacles - - - - -	6692	10th Oct. 1834	George Richards Elkington.
Spectacles - - - - -	13,367	30th Nov. 1850	Frederick Buonaparte Anderson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>OXYDATION AND CORROSION.</b>			
<b>I.—Preventing the Oxydation of Metals.</b>			
Covering and combining copper or brass sheets or plates with a metallic or semi-metallic substance, to prevent corrosion - - - - -	1739	31st March 1790	{ William Collins. Charles Wyatt.
Preventing premature decay in metallic substances -	4722	1st Nov. 1822	John Oxford.
Preserving copper and other metals from corrosion or oxydation.	6031	4th Nov. 1830	George Givinet Bompas.
Protecting iron chain-cables, iron boilers, and iron tanks, from corrosion produced on them by the action of water.	6040	27th Nov. 1830	John Revere.
Preserving copper in certain cases from the oxydation caused by heat.	6336	20th Nov. 1832	Jacob Perkins.
Coating iron and copper for prevention of oxydation	7355	29th April 1837	Henry William Craufurd.
Preventing the oxydation of metals - - - -	7635	5th May 1838	Pierre Armand le Comte de Fontainemoreau.
Preparing metals for prevention of oxydation - -	7704	26th June 1838	Thomas Dowling.
Preparing metals for prevention of oxydation - -	7949	24th Jan. 1839	Thomas Dowling.
Coating iron to prevent oxydation or corrosion, and for other purposes.	8403	29th Feb. 1840	James Beaumont Neilson.
Composition for the prevention of corrosion in metals, and for other purposes.	8490	2nd May 1840	Arthur Wall.
Process, mode or method of making or manufacturing lime, cement, artificial stone, and such other compositions; more particularly applicable for working under water, and in constructing buildings and other works which are exposed to damp [ <i>preserving iron from oxydation</i> ].	8914	3rd April 1841	William Edward Newton.
Protecting metals from corrosion or oxydation, and preventing the fouling of iron ships or buoys.	9018	7th July 1841	Robert Mallet.
Preserving iron and other metals from oxydation or rust.	9055	27th Aug. 1841	Edmund Morewood.
Preventing the oxydation of iron in various stages -	10,971	27th Nov. 1845	Moses Poole.
Coating metals to prevent oxydation - - - -	11,083	11th Feb. 1846	Andrew Smith.
Preventing the corrosion of metal - - - -	11,434	3rd Nov. 1846	Baron Charles Wetterstedt.
Preventing the oxydation of iron - - - -	12,437	23rd Jan. 1849	Charles Henry Paris.
Construction of roads and ways for the conveyance of passengers, materials, and goods [ <i>preventing the oxydation of railway rails</i> ].	13,653	3rd June 1851	William Bridges Adams.
<b>II.—Preventing and removing Incrustation of Boilers.</b>			
Apparatus for preventing the boilers of steam-engines and other vessels becoming foul, and for cleaning such vessels when foul.	5534	4th Aug. 1827	Anthony Scott.
Protecting iron chain-cables, iron boilers, and iron tanks, from corrosion produced by the action of water.	6040	27th Nov. 1830	John Revere.
Removing the carbonaceous incrustation from the internal surfaces of retorts employed in distilling coal for generating gas.	7387	8th June 1837	John Kirkham.
Preventing incrustation of steam-boilers, generators, or evaporating vessels.	7714	30th June 1838	Augustus William Johnson.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>OXYDATION, &amp;c.—continued.</b>			
Preventing incrustation in steam-boilers and generators.	10,395	16th Nov. 1844	Francis Watteen.
Preventing and removing incrustation in steam-boilers and steam-generators.	10,409	2nd Dec. 1844	Louis Antoine Ritterbandt.
Preventing and removing incrustation in steam-boilers.	11,347	25th Aug. 1846	Maximilian François Joseph Delfosse.
Preventing and removing incrustation in steam-boilers; closing tubes.	12,168	30th May 1848	William Seaton.
Preventing incrustation in boilers - - - -	12,185	13th June 1848	Joshua Taylor Beale.
Preventing incrustation in steam and other boilers -	12,592	26th April 1849	John Horsley.
Preventing incrustation of steam and other boilers -	13,322	7th Nov. 1850	Benjamin Grey Babington.
Method of preventing and removing incrustation in steam boilers and generators.	13,647	29th May 1851	John Ashworth.
Preventing the incrustation of steam-boilers;—applicable also to the preservation of wood and metal.	14,062	15th April 1852	Alfred Vincent Newton.
Preventing incrustation in boilers - - - -	14,272	23rd Aug. 1852	Frederick Dam.
[For Oxydizing, see "CHEMICAL SALTS, GASES, AND COMPOSITIONS."]			

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>P.</b>			
<b>PACKING AND PRESSING.</b>			
<b>I.—Hydraulic and other Presses; pressing and packing Goods and Materials; Copying presses.</b>			
Press - - - - -	2198	31st Oct. 1797	Thomas Paton.
Pressing all sorts of substances - - - - -	2623	31st May 1802	Archibald Blair.
Pressing machinery - - - - -	2624	31st May 1802	{ John Cant. John Millar.
Construction of hydraulic presses for pressing cloth and paper, and for other purposes.	3792	12th March 1814	Matthew Murray.
Copying-presses, and pocket copying-press - -	4522	22nd Dec. 1820	Marc Isambard Brunel.
Procuring a mechanical power [ <i>a press for packing goods</i> ].	4656	2nd March 1822	John Ruthven.
Screw-press used in the pressing of paper, books, tobacco, or bale goods, and expressing oil, extracts, and tinctures, and for other purposes.	5363	23rd May 1826	Daniel Dunn.
Pressing machinery - - - - -	6010	13th Oct. 1830	David Napier.
Construction of presses applicable to various purposes.	6289	26th July 1832	Miles Berry.
Hydraulic presses - - - - -	6709	6th Nov. 1834	Peter Rothwell Jackson.
Presses for pressing paper - - - - -	6866	17th Aug. 1835	William Banks.
Construction of presses - - - - -	7522	23rd Dec. 1837	William Brindley.
Presses - - - - -	7550	25th Jan. 1838	Robert Garton.
Apparatus answering the purpose of a press, for retaining and keeping leaves or pieces of paper or cloth, or of other thin substances, folded or unfolded, in a flattened condition under gentle pressure.	7738	18th July 1838	Henry Bridge Cowell.
Presses - - - - -	8034	16th April 1839	Henry Curzon.
Boxes for vices or presses - - - - -	8225	26th Sept. 1839	Samuel Wilks.
Mechanism for and process of packing and pressing various articles of commerce.	8266	2nd Dec. 1839	Luke Hebert.
Apparatus employed in pressing cotton-wool and goods of various descriptions.	8396	25th Feb. 1840	William Brindley.
Hydraulic presses - - - - -	8983	12th June 1841	Robert Oram.
Construction of presses - - - - -	9101	24th Sept. 1841	Jean Louis Alphonse Petigars.
Construction of presses for compressing cotton and other articles.	9556	15th Dec. 1842	Thomas Cardwell.
Pressing fabrics - - - - -	10,540	3rd March 1845	William Palmer.
Hydraulic presses; machinery connected therewith.	10,612	15th April 1845	William Wylam.
Construction of presses - - - - -	11,622	15th March 1847	Charles Fox.
Copying-presses - - - - -	11,636	23rd March 1847	William Henry Kempton.
Construction of pneumatic presses - - - - -	11,712	22nd May 1847	Moses Poole.
Producing pressure for various purposes - - -	12,569	16th April 1849	John Ruthven.
Pressing matters [ <i>disclaimed</i> ] - - - - -	12,626	2nd June 1849	Moses Poole.
Apparatus for pressing - - - - -	12,653	7th June 1849	Henry Knight.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PACKING, &amp;c.—continued.</b>			
Hydraulic presses - - - - -	13,885	10th Dec. 1849	Baron Louis Lo Presti.
Presses [ <i>Ay-presses</i> ] - - - - -	13,213	5th Aug. 1850	Francis Kane.
Machinery for compressing certain substances -	13,355	19th Nov. 1850	Thomas Dunn.
Presses and pressing - - - - -	13,753	25th Sept. 1851	Richard Archibald Brooman.
Machinery or apparatus for obtaining motive-power [ <i>compressing or packing goods by the pressure of steam or water</i> ].	13,779	17th Oct. 1851	Richard Roberts.
Presses and pressing [ <i>application of fluids and centrifugal force for pressing</i> ].	14,008	8th March 1852	Richard Archibald Brooman.
<b>II.—Pressing Animal and Vegetable Substances.</b>			
Machine and engine for preserving, securing, and bagging hops.	455	27th May 1723	Richard Sheldon.
Retaining cotton, tobacco, hemp, flax, hops, hay and other articles in nearly the same compass into which they can be compressed by machinery, without being liable to any material expansion after being removed from such machinery.	2125	4th July 1796	William Sabatier.
Retaining cotton and other elastic substances, when pressed, by means of wrappers.	2643	19th Aug. 1802	Archibald Blair.
Retaining cotton and other elastic bodies, when pressed, by means of wrappers.	2628	9th March 1805	Archibald Blair.
Manufacturing iron straps or girdles into various articles, as a substitute for those now composed of hemp.	3089	16th Dec. 1807	James Breck.
Packing tables, chairs and stools, for domestic, military, and naval service.	3217	20th March 1809	James Hakewill.
Pressing vegetable and animal products - - -	4109	11th March 1817	Ludvig Granholm.
Method and apparatus for packing and preserving hops.	4480	20th June 1820	John Vallance.
Packing and transporting goods - - - - -	5977	5th Aug. 1830	Sir Charles Webb Dance.
Lifting-jack, applicable to the packing or compressing goods or other substances.	6768	31st Dec. 1840	Joseph Haley.
Improvements partly applicable to compressing vegetables and other substances; machinery for the purpose.	11,240	12th June 1846	Robert Rettie.
Packing cops of cotton and other fibrous materials; apparatus connected therewith.	12,800	3rd May 1849	Matthew Kennedy.
Packing [ <i>cotton and other fibrous substances</i> ] - -	13,325	7th Nov. 1850	David Christie.
Presses applicable for extracting saccharine and other matters, and to compressing in general.	13,916	24th Jan. 1852	Peter Armand le Comte de Fontainemoreau.
Treating cotton seeds; obtaining products therefrom, &c.	14,338	2nd Nov. 1852	Joseph Walker.
<b>III.—Working Presses.</b>			
Working fly presses or stamps, such as are used for cutting out blanks and for impressing buttons, buckles, or other pieces of metal, as well as steel dies, by means of the power of water-mills, and steam-engines with or without pressure of air, weights, or springs.	1757	8th July 1790	Matthew Boulton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PACKING, &amp;c.—continued.</b>			
Making and working presses, particularly packing presses and hot presses - - - - }	2105	26th April 1796	{ Isaac Wheildon. John Bowler.
Forcing or working the bolts of presses or engines for cutting, pressing, and squeezing metals, horn, tortoiseshell, leather, paper, and other substances.	2783	14th Sept. 1804	John Gregory Hancock.
Applying power and motion to presses and other mechanical apparatus - - - - }	3994	14th March 1816	{ William West. Daniel West.
Machinery or apparatus for manufacturing metal tubes, which improvements in machinery are in part applicable to other purposes where pressure is required [ <i>application of steam-power to hydrostatic presses used for making metal tubes, which presses are also applicable for stamping and rivetting metals, and forcing clay and other similar substances into moulds</i> ].	13,035	11th April 1850	Richard Prosser.
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<b>PAINTING, PAINTS, AND VARNISHES.</b>			
<b>I.—Painting Walls, Plaster, Wood, and Stone.</b>			
Glazing and painting stone so as to endure the fire, for chimney corner-stones, hearths, and other uses.	425	24th March 1720	Richard Robinson.
Staining, veining, spotting, clouding, and damasking on wood, to imitate marble, porphyry and other stones, and tortoiseshell.	461	28th Jan. 1724	Thomas Jones.
Covering and painting timbers, planks, and boards of ships, yachts, barges, lighters, boats, or vessels; and timbers, planks, boards, and plastering in buildings, or other things suited to this method.	557	13th June 1737	Alexander Emerton.
Encaustic painting in various colours, in imitation of ancient Etruscan and Roman earthenware.	939	16th Nov. 1769	Josiah Wedgwood.
Preparing stones for painting and gilding - - -	980	17th Jan. 1771	George Starkey.
Laying oil colours in thin layers, on canvas, wood, iron, stone, or any similar substance, to imitate marble, for chimney-pieces, pillars, or floor cloths, and for other purposes - - - - }	1757	11th May 1790	{ William Roberts. William Dight.
Machinery for painting;—applying parts of the said machinery to other purposes.	2735	24th Sept. 1803	John Isaac Hawkins.
Ornamenting articles of wood, whether japanned, painted, or sized.	3593	6th Aug. 1812	Thomas Hubball.
Method of painting walls of apartments and other surfaces, by the preparation and application of certain materials.	3808	17th May 1814	John Vancouver.
Colouring or painting walls or other surfaces - - -	7885	1st Dec. 1838	Ambrose Bowden Johns.
Colouring or painting walls and other surfaces; preparing materials used for that purpose.	8115	19th June 1839	Ambrose Bowden Johns.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAINTING, &amp;c.—continued.</b>			
Combining materials to be used for cementing purposes, and for preventing the passage of fluids; forming or constructing articles from such compositions of materials [ <i>may be applied to painting purposes</i> ].	9487	8th Oct. 1842	Charles Edward Deutsche.
Painting, graining or decorating with oil and other colours.	9782	10th June 1843	Henry Page.
Painting or decorating with oil and other colours -	10,504	30th Jan. 1845	Henry Page.
Graining and decorating in oil, distemper and other colours; imitating marbles, woods, granites, fancy and other woods; apparatus and instruments to be used therein.	10,680	11th Oct. 1845	Edmund Barber.
Colouring wood - - - - -	11,842	19th Aug. 1847	François Augustin Renard.
Treating fatty, oleaginous, resinous, bituminous, and cerous bodies; manufacture and application of them and of their components and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [ <i>application of chemical substances to painting</i> ] - -	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Printing, staining, figuring and ornamenting wood, or any other material; machinery employed therein.	13,523	24th Feb. 1851	Peter Wood.
Process of decorative painting applicable to rooms, halls, carriages, furniture, and to other purposes.	14,028	20th March 1852	William Froggett.
<b>II.—Painting Cloths, Oil Painting, &amp;c.</b>			
Painting with oil colours upon woollen cloth, kerseys, and stuffs for hangings, also on silks for windows - - - - -	99	— — — — 1636	{ Richard Greenbury. Edward Greenbury.
Painting, staining and colouring flannels and other woollens.	659	22nd Jan. 1751	John Elliott.
Painting silks and satins in oil colours - - -	804	18th Jan. 1764	{ John Tempest Christian. Peter Browne.
Painting silk tiffany, gauze, and other goods in imitation of lace.	1221	29th April 1779	Michael Braggini.
Apparatus for the purpose of displaying views of nature at large, by oil painting, fresco, water-colours, crayons, or any other mode of drawing.	1612	19th June 1787	Robert Barker.
Laying on or imprinting grounds or coats of composition or paint, upon satin, silk, cotton, linen, velvet, leather, or any kind of cloth, stuff or paper, for receiving impressions of engraved copper plates in all sorts of colours, and for other purposes.	1845	16th Jan. 1792	Anthony George Eckhardt
Painting and colouring all kinds of leather - -	2354	4th Nov. 1779	Edmund Prior.
Manufacture, system or method of drawing and painting.	2797	19th Dec. 1804	Stephen Pasquier.
Machines for ploughing, laying on colours, flocking and pressing, to produce an even smooth face on paper, silk, linen, woollen, leather, cotton, and various articles.	3777	8th Feb. 1814	Timothy Harris.
Painting or staining silks, cottons, woollen and other cloths, and paper, parchment, vellum, leather and other substances, by means of blocks or surface printing.	4813	15th July 1823	John Leigh Bradbury.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAINTING, &amp;c.—continued.</b>			
Painting or otherwise ornamenting the surfaces of silk, cotton, linen or leather; applicable to the manufacture of gloves and such like articles.	7686	14th June 1838	Joseph Winter.
Machinery or apparatus applicable to the purposes of brushing and cleaning [ <i>machine for applying paint and varnish colour to paper or fabrics, by means of a rotating brush</i> ].	14,268	19th Aug. 1852	Charles Butler Clough.
Colouring photographic images - - - -	14,302	23rd Sept. 1852	Jacques Leon Tardieu.
<b>III.—Paints, Colours, and Varnishes, Paint-boxes.</b>			
Graving, garnishing and colouring ships and other vessels - - - -	154	8th Oct. 1667	{ Sir Phillip Howard, Knt. Francis Watson.
Graving, garnishing and colouring ships and other vessels; also garnishing, colouring and varnishing wood, iron, stone, plaster and other things, by a liquor drawn from certain grain growing in England, mixed with other ingredients - -	155	2nd March 1668	{ Sir Phillip Howard, Knt. Francis Wallson.
Making a mixture of wax and other ingredients, for beautifying and preserving leather.	322	— April 1693	George Sylvanus.
Pine varnish for paying ships' sides and masts, and preventing the decay of timber buildings.	690	21st May 1754	John Lewis.
Liquid composition for painting paper, silk, cloth and canvas in divers colours.	702	22nd July 1755	Joachim Bähre.
Composition to be used as the groundwork in making painted floor-cloths; machine to apply the same.	787	15th March 1763	Nathan Smith.
Composition and varnish made with oils and other things, for staining, printing, painting, and laying gold, silver or metals, on woollens, worsted, and goods mixed with wool, for apparel and furniture	790	16th June 1763	{ Benjamin Keene. Carl Frederick Schmidt.
Stain, varnish and powder for beautifying and preserving the colour of wood, particularly mahogany or furniture.	1188	30th March 1778	Humphrey Jackson.
Making a colour for dyers and calico printers - -	1260	27th June 1780	Joseph Flight.
Producing yellow colour for painting in oil or water	1281	26th Feb. 1781	James Turner.
Composition, called naval black varnish, for paying yards, topmasts, bowsprits, bends, blocks, anchors, &c. of ships, instead of lamp black.	1329	2nd May 1782	Edmund Saunders.
Mixing colours for painting - - - -	1594	20th March 1787	Robert Ansell.
Powders to be used where the mixture of oil or oily substances with acetous or watery liquors is required.	1609	5th June 1787	John Wyatt.
Composition in the nature of japan or varnish -	1761	17th July 1790	Thomas Saint.
Composition or naval black varnish for paying yards, masts, blocks, and anchors of ships, also ships' bottoms, and for laying on copper for sheathing ships.	1779	29th Oct. 1790	Matthew Luscombe.
Making paint and colours - - - -	1803	2nd May 1791	William Murdock.
Making paints from certain materials - - -	1996	18th June 1794	John Atkinson.
Making paints from certain materials [ <i>a substitute for white lead</i> ].	2094	8th March 1796	John Atkinson.
Article for use as a substitute for paint or to mix with paint.	2298	28th Feb. 1799	Joseph Tidmarsh.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAINTING, &amp;c.—continued.</b>			
Preparing colours in cakes and powder from log-wood and other vegetable substances for painting.	2424	16th July 1800	Thomas Smyth.
Boxes to contain articles for drawing and painting; arranging colours in the said boxes.	2510	2nd June 1801	Thomas Robert Guest.
Preparing enamel colours - - - - -	2900	26th Nov. 1805	Samuel Anness.
Black paint composed chiefly of earthy and mineral substances.	2967	18th Sept. 1806	Isaiah Birt.
Making colours for painting - - - - -	3001	15th Jan. 1807	Walter Henry Wyatt.
Making paint or varnish from a fossil, for use in painting ships, and in various manufactures.	3317	22nd March 1810	Thomas Grant.
Colours for laying on stucco - - - - -	3424	26th March 1811	John Kerrod.
Producing black colour or pigment - - -	3507	21st Nov. 1811	Charles Random de Berenger.
Composition for painting linen, paper, stuccoed walls and boarding, for ornamenting the walls and ceilings of rooms.	3511	9th Dec. 1811	John Hudson.
Manufacture of green paint - - - - -	3594	10th Aug. 1812	William Parker.
Making a green colour, and its application to useful purposes.	3655	3rd March 1813	Alexis Delahante.
Ingredients for mixing with oil in preparing and making paint.	3704	31st May 1813	Thomas Grant.
Application of a species of earth to substitute lead in oil paints, and for other purposes.	3780	10th Feb. 1814	Joseph Bramah.
Paint and colour for painting houses and ships, and other things.	4012	23rd March 1816	William Haddock.
Form of making up superfine oil and water colours for drawing and painting, and for other purposes.	4330	15th Jan. 1819	Charles Smyth.
Apparatus for preparation of colours - - -	4376	24th May 1819	John Thomas Barry.
Preparation of colours for printing cloth - -	4704	27th Sept. 1822	John Bourdieu.
Preparation of a mucilage to be used in printing linen, woollen, and cotton cloths, and silks.	4789	29th April 1823	John Bourdieu.
Making paint or pigment by preparing and combining a substance with oil or turpentine and other ingredients [ <i>lead ore, or its scoria</i> ].	5385	10th July 1826	Peter Groves.
Manufacture of paints and varnishes by application of a material hitherto unused for the purpose.	6249	22nd March 1832	Benjamin Cook.
Making a certain pigment or pigments - - -	6542	16th Jan. 1834	Charles Attwood.
Making and compounding pigments - - -	6906	15th Oct. 1835	John Bird.
Mixing and preparing oil paint - - - - -	6947	8th Dec. 1835	Nathaniel Partridge.
Preparation of certain colours to be used for printing cotton and other fabrics [ <i>Carrageen moss</i> ].	6952	10th Dec. 1835	Lightly Simpson.
Method of operating for the purpose of converting peat moss and peat, turf or bog, into fuel, and obtaining from it tar, gas, and other certain substances or matters [ <i>preparing the coke for use as a pigment</i> ].	7296	6th Feb. 1837	Michael Linning.
Manufacture of certain pigments or paints, or such like substances - - - - -	7613	10th April 1838	{ Edward Colbold. Peter Richold, junior.
Preparing materials used for painting walls and other surfaces.	8115	19th June 1839	Ambrose Bowden Johns.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAINTING, &amp;c.—continued.</b>			
Paints or pigments and vehicles; modes of applying the same - - - - - }	8234	7th Oct. 1839	{ Francis Gybbon Spilsbury. Marie François Catherine Doctzer Corbaux. Alexander Samuel Byrne.
Preserving and using colours - - - - -	8394	22nd Feb. 1840	William Windsor.
Pigment [ <i>from oxyde of zinc</i> ] - - - - -	8451	25th March 1840	Henry Philip Rouquette.
Pigments; preparation of the sulphates of iron and magnesia.	8748	23rd Dec. 1840	John Brumwell Gegan.
Making paint from materials not before used for that purpose.	8795	16th Jan. 1841	John Annes.
Thickening and preparing colours for printing } calicoes and other substances - - - - - }	8812	26th Jan. 1841	{ Nathaniel Lloyd. Henry Rowbotham.
Preserving paints and other fluids [ <i>by enclosing in tubes or cases of tin</i> ].	8863	6th March 1841	John Rand.
Obtaining paints or pigments by the combination of mineral solutions with other substances.	8884	16th March 1841	Charles Bunt Dyer.
Preparation of pigments or painters' colours - - -	9127	26th Oct. 1841	{ Martyn John Roberts. William Brown.
Manufacture of mineral colours - - - - -	9458	3rd Sept. 1842	William Rocke.
Composition of black paint - - - - -	9667	16th March 1843	Martyn John Roberts.
Improvements applicable to the preparation of certain pigments or painters' colours.	9757	3rd June 1843	William Brown.
Treating pigments or paints and varnishes, when used to fix metallic powders and metal leaf.	10,011	13th Jan. 1844	Henry Bessemer.
Preparing materials for printing and colouring calicoes and other fabrics.	10,861	8th May 1845	John M'Intosh.
Manufacture of paints and pigments; machinery used in the process.	10,863	9th Oct. 1845	Edmund Patrick Emerson.
Preparing a material for painting [ <i>oxyde of zinc</i> ] -	11,085	11th Feb. 1846	James Murdoch.
Preparation of paints and colours for decorative and other similar purposes.	11,306	23rd July 1846	Harold Crease.
Preparing and employing certain colours and materials for painting.	11,616	10th March 1847	James Murdoch.
Material which may be used as a pigment and for other purposes.	11,790	12th July 1847	Robert William Sievier.
Gas tar used as a substitute for oil paint (patent mineral paint).	11,870	23rd Sept. 1847	George Bell.
Manufacturing certain matters to be employed as pigments [ <i>instead of white lead</i> ].	11,964	16th Nov. 1847	William Edward Newton.
Preparation of colours for printing stuffs composed of silk or wool, or a mixture of both.	11,993	10th Dec. 1847	Joseph Clinton Robertson
Manufacture of colours and varnishes - - - - -	12,073	18th Feb. 1848	{ Edward Duncombe Lines. Samuel Luz Freemont.
Manufacture of gas for illumination; manufacture of the residual products into articles of commerce [ <i>obtaining a spirit to be used as a varnish or vehicle for colour</i> ].	12,203	6th July 1848	Joseph Clinton Robertson.
Treating the oxydes of iron and obtaining products therefrom [ <i>a black or dark coloured pigment, or a volatile oleaginous product</i> ].	12,297	26th Aug. 1848	William Longmaid.
Paints and pigments - - - - -	12,314	2nd Nov. 1848	Francis Gybbon Spilsbury.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAINTING, &amp;c.—continued.</b>			
Preparation for fixing paint or pigment colours on cloth, linen, woollen, silk, and other woven fabrics.	12,316	2nd Nov. 1848	Robert Thomson Pattison.
Process of and apparatus for treating fatty bodies; application of the products to useful purposes [ <i>preparing cloth varnish</i> ].	12,342	25th Nov. 1848	Pierre Armand le Comte de Fontainemoreau.
Manufacture of varnish from resinous substances -	12,409	11th Jan. 1849	James Castley.
Making paints when oxyde of zinc is used - -	12,498	28th Feb. 1849	Charles Andre Felix Rochaz.
Manufacture of vehicles for mixing pigments - -	12,503	5th March 1849	Henry Constantine Jennings.
Manufacture of pigments, and paints and varnishes	12,611	15th May 1849	{ Henry Bessemer. John Sharp Cromartie Heywood.
Dissolving certain gums, or combinations of the same; apparatus or machinery to be used for the purpose [ <i>varnishes and cement of gutta percha, india rubber, and other materials</i> ].	12,643	7th June 1849	Edward John Payne.
Application and combination of mineral and vegetable products; obtaining products from mineral and vegetable substances [ <i>obtaining paint</i> ].	12,738	9th Aug. 1849	Thomas John Knowlys.
Manufacture of a certain pigment [ <i>making zinc white</i> ].	12,868	29th Nov. 1849	Charles Barlow.
Pigments and paints, and vehicles for painting -	12,884	15th Dec. 1849	Benjamin Fawcett.
Manufacture and refining of sugar; treatment and use of matters obtained in such manufacture [ <i>manufacturing a pigment by employing sulphate of lead</i> ].	12,977	21st Feb. 1850	John Scoffern.
Manufacture of varnishes - - - - -	13,046	18th April 1850	William Henry Ashurst.
Manufacture of vegetable fluid to be used in the making of varnish.	13,048	18th April 1850	Abraham Moses Marbe.
Treating fatty and oily matters; application of the products of fatty and oily matters [ <i>treating fatty acids with certain metallic oxydes and per-oxydes for producing salts to be used as pigments</i> ].	13,056	23rd April 1850	Charles Humfrey.
Making paints from oxyde of zinc - - - - -	13,067	30th April 1850	Evan Protheroe.
Treating fatty, oleaginous, resinous, bituminous, and cerous bodies; manufacture and application of them, and of their components and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [ <i>production of coloured varnishes</i> ] -	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Obtaining, preparing, and applying oxydes of zinc, and other volatile metals or alloys [ <i>making pigments</i> ].	13,192	23rd July 1850	William Edward Newton.
Preparing certain matters or substances to be used as pigments.	13,194	24th July 1850	Langston Scott.
Preparation and application of products from metallic ores, for colour making.	13,342	14th Nov. 1850	John Swindells.
Composition which may be employed as a pigment or paint.	13,358	19th Nov. 1850	Alfred Vincent Newton.
Rendering products (resulting from condensation and purification of smoke, gases, and other noxious vapours arising from fire-places and furnaces, or from chemical and other works) available for the manufacture of various colours -	13,412	16th Dec. 1850	{ Richard Rodham. Edward Robert Hoblyn.
Machinery used for colour manufacturing - -	13,490	3rd Feb. 1851	Alexander Alliott.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAINTING, &amp;c.—continued.</b>			
Chemical combination of certain agents for obtaining a new plastic product [ <i>to be used as paints</i> ].	13,894	12th Jan. 1852	Alcide Marcellin Duthoit.
Manufacture of pigments or paints - - - -	13,937	29th Jan. 1852	Alfred Vincent Newton.
Composition applicable to the purposes of varnish, to the waterproofing of fabrics, to the manufacture of transparent fabrics, to the fixing of colours, and to other useful purposes.	14,205	6th July 1852	Jules Lemoine.
Manufacture of zinc white - - - - -	14,262	12th Aug. 1852	François Bernard Bekaert.
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<b>IV.—Lamp and Ivory Black.</b>			
Making lamp-black - - - - -	378	8th June 1706	William Cove.
Making lamp-black - - - - -	674	13th Jan. 1753	John Baker.
Extracting lamp-black and caput mortuum from a certain mineral.	1015	30th April 1772	Christian Wilhem Baron Van Haacke.
Mineral lamp black - - - - -	2250	14th July 1798	William Row.
Manufacturing ivory black - - - - -	3341	22nd May 1810	William Docksey.
Burning animal bones to extract the fat and grease, likewise extracting the spirituous quality therefrom; reducing the remaining or dry parts into a substance sufficiently prepared for being ground into ivory black.	3674	30th March 1813	David Thomas.
Making fine light black; apparatus for the purpose } [ <i>from the soot of burnt coal tar</i> ] - - - }	4601	24th Oct. 1821	{ Thomas Martin. Charles Grafton.
Reducing charcoal and other similar matters to powder; heating such powder to make it of use in lieu of vegetable black, lamp black, and other matters.	11,119	5th March 1846	Robert Lewis Jones.
Manufacture of lamp black - - - - -	11,125	11th March 1846	Parfait Grout.
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<b>PAPER AND PASTEBOARD.</b>			
<b>I.—Making, and Preparing for Making.</b>			
Making blue paper used by sugar bakers - -	147	16th Feb. 1665	Charles Hildeyerde.
Making white paper for writing and printing -	178	21st Jan. 1675	Eustace Burneby.
Engine for making paper and pasteboard - -	220	10th July 1682	Nathaniel Bladen.
Making pasteboard and paper in whole sheets without piecing, and for the purpose of hot and cold pressing of cloth.	238	6th Aug. 1684	Robert Fuller.
Making writing and printing paper - - -	242	11th Oct. 1684	Christopher Jackson.
Making paper as white and good as French or Dutch, for writing, printing, and other purposes.	246	4th July 1685	John Brisco.
Making writing and printing paper, imprinting the Royal Arms thereon; mills and engines for the purpose - - - - -	249	9th Jan. 1686	{ Nicholas Dupin. Adam de Cardonels. Charles de Gruchy. Martin Pagnault. James de May. Robert Shales.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAPER, &amp;c.—continued.</b>			
Engine for pounding and making rags fit for making paper, and for other similar purposes.	271	27th Aug. 1691	John Tyzacke.
Instruments for making blue and other coloured paper.	284	— Nov. 1691	Nathaniel Gifford.
Mill driven by wind, sails, or water wheels, for making paper.	307	— — 1692	Thomas Hutton.
Making cartridge paper from the mill, so as not to hold any fire.	625	3rd Nov. 1747	Josias Johannot.
Making printing paper, particularly for copper plate printing.	1622	17th Sept. 1787	Samuel Hooper.
Making paper for building houses, bridges, ships, boats, wheel carriages, sedan chairs, chairs, tables, and book cases, either of paper or of wood and iron covered with paper.	1662	12th Aug. 1788	Charles Lewis Ducrest.
Making from leather cuttings, shavings, or parings, and whit leather, a paper for copper plate printing; also brown, and other papers.	1723	20th Jan. 1790	Samuel Hooper.
Constructing moulds or wires for paper making, so that the paper may come out from them with lines and copies for writing and outlines for drawing by means of the water mark.	1774	21st Aug. 1790	John Phipps.
Destroying and taking away the carbonic, oleaginous, and colouring elements in rags and other materials used for making paper.	1922	28th Nov. 1792	Hector Campbell.
Machine for making moulds used by paper manufacturers.	1959	27th June 1793	Joseph Moseley Elliot.
Heating by steam and in vats the water and stuffs } for paper making - - - - - }	1980	16th Aug. 1793	{ William Seott. George Gregory.
Manufacturing paper of various sorts - - - - -	2026	28th Nov. 1794	William Cunningham.
Making coloured paper for writing, printing, drawing, and for various other purposes.	2147	19th Nov. 1796	Thomas Cobb.
Extracting inks from printed and written paper, and converting the paper into pulp.	2392	28th April 1800	Matthias Koops.
Manufacturing paper fit for printing and other purposes, from straw, hay, thistles, waste and refuse of hemp and flax, and different kinds of wood and bark.	2433	2nd Aug. 1800	Matthias Koops.
Manufacturing paper from straw, hay, thistles, waste and refuse of hemp and flax, and different kinds of wood and bark.	2461	17th Feb. 1801	Matthias Koops.
Machine for making paper in single sheets without seam or joinings.	2487	20th April 1801	John Gamble.
Manufacturing paper for various purposes - - - - -	2648	27th Sept. 1802	William Plees.
Machine for making paper in single sheets without seam or joinings.	2706	7th June 1803	John Gamble.
Making paper - - - - -	2840	25th April 1805	Joseph Bramah.
Making a machine for manufacturing paper of an indefinite length, both laid and wove, with separate moulds.	2951	24th July 1806	Henry Fourdrinier.
Machine for making paper in single sheets without seam or joinings, &c. } [Prolongation by Act of Parliament Nos. 2487 and 2708, assigned to S. and H. Fourdrinier :— 15 years from 14 August 1807.] }	3068*	14th Aug. 1807	{ Henry Fourdrinier. Sealy Fourdrinier. John Gamble.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAPER, &amp;c.—continued.</b>			
Making cannon cartridge paper - - - -	3080	12th Nov. 1807	John Dickinson.
Making paper in separate sheets - - - -	3084	4th Dec. 1807	Thomas Cobb, junior.
Machinery for manufacturing paper - - - -	3191	19th Jan. 1809	John Dickinson.
Machine for making paper - - - - -	3452	21st May 1811	John Dickinson.
Machine for making wove and laid paper - -	3568	26th May 1812	Leger Didot.
Making paper in separate sheets - - - -	3580	16th July 1812	Thomas Cobb, junior.
Moulds for making paper - - - - -	3598	25th Sept. 1812	Leger Didot.
Machinery and apparatus for manufacturing paper; also separating knots or lumps from paper, or paper stuff - - - - -	3839	24th Aug. 1814	{ John Dickinson. George Dickinson.
Process for reducing rags of silk, linen or cotton, to their original state, so that the materials can be manufactured, and again applied to useful purposes.	3979	3rd Feb. 1816	John Budgen.
Machine for manufacturing paper - - - - -	4002	23rd March 1816	Robert Cameron, junior.
Machines for making wove and laid paper in continued lengths or separate sheets.	4126	22nd May 1817	Leger Didot.
Manufacturing writing paper, so that writing cannot be extracted or discharged therefrom.	4131	3rd June 1817	Gabriel Tigere.
Manufacturing, by means of machinery, paper for copper-plate printing; also papers for writing, drawing, letter-press printing, and a thicker sort for boards, similar to card-boards or paste-boards.	4152	5th Aug. 1817	John Dickinson.
Manufacturing paper for bills, notes, or other uses requiring strength.	4157	9th Aug. 1817	Edmund Richard Ball.
Manufacture of bank-note paper - - - - -	4419	4th Dec. 1819	Sir William Congreve.
Process by which certain materials may be manufactured into paper or felt, or a substance nearly resembling the same [ <i>heath moss</i> ].	4899	27th July 1824	Alexander Nisbett.
Material and manufacture of paper [ <i>from straw</i> ] -	5041	23rd Nov. 1824	Louis Lambert.
Machinery for making wove and laid paper - -	5084	1st Jan. 1825	{ Samuel Denison. John Harris.
Machinery for making paper - - - - -	5075	11th Jan. 1825	{ John Phipps. Christopher Phipps.
Making paper from certain substances - - - -	5293	17th Nov. 1825	James Guestier.
Web or wire for making paper [ <i>mode of weaving</i> ] -	5380	4th July 1826	Lewis Aubrey.
Making paper from ligneous parts produced from certain textile plants, in the process of preparing them by the "rural mechanical brake," and which substances may be used alone, or mixed with other materials.	5469	20th Feb. 1827	Augustus Count de la Garde.
Making paper by machinery - - - - -	5617	21st Feb. 1828	George Dickinson.
Moulds or apparatus for making paper - - -	5647	6th May 1828	James Palmer.
Manufacturing paper and other materials into single sheets or pieces by machinery.	5754	14th Jan. 1829	John Dickinson.
Parts of apparatus for making paper by machinery -	5934	28th April 1830	John Wilks.
Apparatus for separating the knots from paper stuff or pulp, used in the manufacture of paper.	5964	29th July 1830	Richard Ibotson.
Machinery for making paper - - - - -	5987	31st Aug. 1830	Thomas Barratt.
Manufacturing paper by machinery - - - -	6008	6th Oct. 1830	John Dickinson.
Machine for manufacture of paper - - - -	6033	9th Nov. 1830	John Hall, junior.
Machinery for making paper - - - - -	6095	21st March 1831	George William Turner.
Machinery used in the manufacture of paper - -	6148	4th Aug. 1831	John Hall, junior.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAPER, &amp;c.—continued.</b>			
Machinery for a method of making paper ("xero-nothlipte").	6156	31st Aug. 1831	Jean Jaques Jaquier.
Manufacturing mangel wurzel for producing various known articles of commerce [ <i>paper</i> ].	6176	6th Oct. 1831	Peter Young.
Manufacture of paper - - - - -	6209	10th Jan. 1832	John Dickinson.
Machinery for making paper - - - - -	6243	15th March 1832	Henry Brewer.
Manufacturing mangel wurzel for producing various known articles of commerce [ <i>paper</i> ].	6249	22nd March 1832	Peter Young.
Construction of apparatus to be employed in making paper.	6312	29th Sept. 1832	Joseph Amies.
Dressing or preparing hemp, flax, New Zealand flax, and other vegetable fibrous substances, to render them fit for paper making, and for other purposes.	6360	9th Jan. 1833	Joseph Gibbs.
Machinery for making paper - - - - -	6363	11th Jan. 1833	William Harrold.
Machinery for making paper - - - - -	6428	25th May 1833	Francis Molineux.
Pulp strainer, to be used in making paper - -	6437	20th June 1833	Thomas Wrigley.
Machinery for preparing linen and cotton rags and other materials used in the manufacture of paper.	6476	28th Sept. 1833	Henry Davey.
Making paper - - - - -	6535	28th Dec. 1833	George Dickinson.
Machinery for making paper - - - - -	6713	15th Nov. 1834	Lemuel Wellman Wright.
Machinery for making paper - - - - -	6725	25th Nov. 1834	John Donkin.
Mould and apparatus to be used in making paper -	6782	4th March 1835	John Prince.
Manufacture of paper - - - - -	6866	24th July 1835	{ John Dickinson. { William Long Tyers.
Machinery for making paper - - - - -	7098	10th May 1836	James Brown.
Preparing or manufacturing the leaf of a certain plant, so as to produce a fibrous substance not hitherto used in manufactures;—application of the same to various purposes [ <i>for making paper</i> ].	7249	9th Dec. 1836	Frederick Burt Zincke.
Preparing writing paper from which writing ink cannot be expunged or abstracted without detection.	7313	2nd March 1837	David Stevenson.
Preparing writing paper so as to prevent the discharge of ink therefrom without detection, and to prevent falsification of writing thereon.	7316	6th March 1837	Charles Francois Edward Aulas.
Manufacture of paper by application of a certain vegetable substance not hitherto used for the purpose.	7432	14th Sept. 1837	Edmund Shaw.
Preparing writing paper so as to prevent the discharge of ink therefrom without detection, and to prevent falsification of writing thereon.	7465	7th Nov. 1837	Charles Francois Edward Aulas.
Manufacture of paper and paper boards - -	7633	5th May 1838	Edmund Shaw.
Method of applying certain textile and exotic plants as substitutes in various cases for flax, hemp, cotton, and silk [ <i>fibres of tropical plants, suitable for making paper</i> ].	7639	14th May 1838	Miles Berry.
Pulpy material for making paper and pasteboard, prepared from substances not hitherto used for the purpose [ <i>fibres of the wood of the poplar</i> ].	7643	15th May 1838	James Vincent Desgrand.
Manufacture of paper - - - - -	7772	15th Aug. 1838	George Robert D'Harcourt.
Manufacturing paper, pasteboard, and tissues -	7794	6th Sept. 1838	Morton Balmanno.
Manufacture of paper - - - - -	7850	3rd Nov. 1838	Edward Cooper.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAPER, &amp;c.—continued.</b>			
Application of certain fibrous materials to the manufacture of paper [ <i>fibres of the banana, fig, palm, aloe, and plantain</i> ].	7883	1st Dec. 1838	John Small.
Machinery for making paper - - - - -	7897	6th Dec. 1838	Thomas Sweetapple.
Manufacture of paper - - - - -	7961	4th Feb. 1839	John Evans.
Manufacture of paper - - - - -	7977	21st Feb. 1839	William Joynson.
Manufacture of paper - - - - -	8027	9th April 1839	Thomas Bonsor Crompton.
Manufacture of paper - - - - -	8032	15th April 1839	Henry Crosley.
Manufacture of certain kinds of paper, millboard, and other matters produced from paper pulp.	8037	20th April 1839	James Fergusson Saunders.
Manufacture of paper - - - - -	8188	2nd July 1839	Kenrik Zander.
Manufacture of paper from a material not hitherto employed.	8209	26th Aug. 1839	Thomas Mac Gauran.
Making paper by hand or by machinery - - -	8212	5th Sept. 1839	Bryan Donkin.
Manufacture of paper [ <i>introducing fine threads or lines of silk into the fabric, to prevent the forgery of postage envelopes</i> ].	8242	17th Oct. 1839	John Dickinson.
Rendering certain textile or fibrous plants applicable to the making of paper, in place of flax, hemp, cotton and other fibrous materials commonly used for such purpose [ <i>the "stipa terracissima," a grassy plant growing on the coasts of the Mediterranean</i> ].	8273	19th Nov. 1839	Miles Berry.
Machinery for manufacturing paper - - -	8283	25th Nov. 1839	James Craig.
Manufacture of paper - - - - -	8310	13th Dec. 1839	{ Robert Gill Ranson. Samuel Milbourn.
Surface for paper, mill or card-board - - -	8324	21st Dec. 1839	George Lindsay Young.
Machinery used in the manufacture of paper - -	8334	3rd Jan. 1840	{ Charles Cowan. Adam Ramage.
Manufacture of paper - - - - -	8558	1st July 1840	William M'Murray.
Machines for cutting rags, ropes, waste hay, straw, or other soft or fibrous substances;—partly applicable to tearing or opening of rags, ropes, or other tough materials.	8580	29th July 1840	Joseph Bennett.
Manufacture of paper - - - - -	8698	10th Nov. 1840	Charles Edwards Amos.
Manufacture of paper - - - - -	8715	25th Nov. 1840	Thomas Barratt.
Manufacture of paper - - - - -	8751	23rd Dec. 1840	John Dickinson.
Shears and other apparatus for cutting, cropping and shearing certain substances [ <i>chopping machines for rags, ropes, junk, &amp;c., in preparing for making paper</i> ].	9110	7th Oct. 1841	Thomas Wells Ingram.
Improvements applicable to the manufacture of paper.	9194	21st Dec. 1841	Henry Hough Watson.
Manufacturing paper - - - - -	9242	20th Jan. 1842	Joseph Hughes.
Applying vegetable gelatine or size to the manufacture of paper.	9356	23rd May 1842	Thomas Middleton.
Machinery for manufacturing paper - - -	9515	8th Nov. 1842	Thomas Wrigley.
Fabric for maps, charts, prints, drawings and other purposes [ <i>paper-cloth</i> ].	9603	26th Jan. 1843	Henry Chapman.
Machinery for manufacturing paper - - -	9633	11th Feb. 1843	Alfred Brewer.
Improvements partly applicable to the manufacture of paper.	9757	3rd June 1843	William Brown.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAPER, &amp;c.—continued.</b>			
Preparation of paper, designed for bank-notes, government documents, bills, cheques, deeds and other purposes wherein protection and safety from forgery or counterfeits is required.	9771	10th June 1843	William Newton.
Machinery for converting fibrous substances into paper.	9787	15th June 1843	Lemuel Wellman Wright.
Manufacture of paper from certain vegetable matters not before used for that purpose [ <i>convolvuli</i> ].	9803	10th Aug. 1843	Richard Archibald Brooman.
Machinery for the manufacture of paper - - -	10,023	23rd Jan. 1844	Thomas Nash.
Manufacture of marking, writing, and other papers; machinery for the purpose.	10,234	21st June 1844	Christopher Phipps.
Manufacture of paper - - - - -	10,252	10th July 1844	Moses Poole.
Wirework for manufacture of paper, and the application thereof to such purposes.	10,300	29th Aug. 1844	Frank Fielder.
Manufacture of paper for writing and copying writings; machinery for the purpose.	10,329	26th Sept. 1844	Sir George Stuart Mackenzie.
Manufacture of paper to prevent fraud; "safety and protective paper."	10,507	4th Feb. 1845	Arthur Varnham.
Bank-notes, and machinery connected therewith, in part applicable to cheques, bills, and other documents.	10,549	11th March 1845	Thomas Grubb.
A thread made from a substance not hitherto applied to that purpose; also the application of it to the manufacture of paper and other articles [ <i>made from gutta percha</i> ].	10,582	27th March 1845	Richard Archibald Brooman.
Paper or material - - - - -	10,996	10th Dec. 1845	Charles Dowse.
Manufacture of paper, mill board, and other substances.	11,063	29th Jan. 1846	Charles Cowan.
Gutta percha and its applications, alone, and in combination with other substances [ <i>manufacture of paper and pasteboard</i> ].	11,208	15th May 1846	Charles Hancock.
Manufacturing and finishing fabrics as substitutes for paper.	11,329	11th Aug. 1846	Charles Dowse.
Treating vegetable fibres to render them applicable for the manufacture of paper.	11,369	10th Sept. 1846	Moses Poole.
Manufacture of paper - - - - -	11,382	24th Sept. 1846	Edmund Nerot.
Manufacture of paper - - - - -	11,394	3rd Oct. 1846	Samuel Millbourn.
Machinery for making paper - - - - -	11,395	3rd Oct. 1846	Henry Woodfall.
Manufacture of paper; machinery employed therein	11,417	15th Oct. 1846	John Donkin.
Manufacture of paper - - - - -	11,833	5th Aug. 1847	William Broadbent.
Manufacture of paper - - - - -	11,871	23rd Sept. 1847	John Dickinson.
Rendering certain materials applicable as a substitute for paper in various articles or manufactures.	11,958	11th Nov. 1847	Samuel Salmen.
Machinery used in the manufacture of cardboard and pasteboard.	12,084	8th March 1848	Warren de la Rue.
Manufacture of paper and cardboard; producing watermarks thereon; apparatus and machinery for the purposes - - - - -	12,471	12th Feb. 1849	{ William Brewer. John Smith.
Manufacture of waterproof paper - - - - -	12,494	28th Feb. 1849	William Brindley.
Manufacture of paper; apparatus and machinery used therein - - - - -	12,836	10th Nov. 1849	{ Charles Edwards Amos. Moses Clark.
Manufacture of paper - - - - -	13,375	30th Nov. 1850	Robert Olddiss Bancks.
Manufacture of safety-paper for bankers' cheques, bills of exchange, and for other like purposes.	13,521	24th Feb. 1851	William Stones.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAPER, &amp;c.—continued.</b>			
Manufacture or treatment of paper or fabric, to prevent copies or impressions being taken of any writing or printing thereon	13,717	14th Aug. 1851	{ Henry Glynn. Rudolph Appel.
Machinery applicable to the manufacture of paper	13,778	16th Oct. 1851	Thomas Lightfoot.
Manufacturing paper	13,896	13th Jan. 1852	Jean Antonio Farina.
Manufacture of certain parts of machinery used in paper making	13,973	14th Feb. 1852	{ Arthur Wellington Callen John Onions.
Manufacture of paper	13,970	23rd Feb. 1852	{ Jean Theodore Coupier. Marie Amedée Charles Mellier.
Manufacture of flocked fabrics [paper]	14,000	8th March 1852	{ James Wansbrough. William Allen Turner.
Machinery for manufacturing paper [straining paper pulp, and rolling, flattening, and glazing paper].	14,112	1st May 1852	Augustus Siebe.
Manufacture of paper and articles of paper [bags]	14,131	22nd May 1852	{ John Harecourt Brown. John Macintosh.
Manufacture of textile fabrics from certain fibrous matters [making paper from the fibres of the plantain, banana, aloe, and other tropical plants and trees, alone or mixed with rag pulp].	14,229	20th July 1852	Stribblehill Norwood May
<b>II.—Sizing, Drying, Finishing.</b>			
Engine for beautifying paper and pasteboards by smoothing the same.	339	6th April 1695	Peter Oliver.
Machine for calendering, glazing, and dressing paper	1783	16th Nov. 1790	Thomas Nightingale.
Sizing paper	2075	19th Nov. 1795	Elias Carpenter.
Machine or machines for ploughing, laying on colours called grounds, flocking and pressing, to produce an even surface upon paper and various other articles.	3777	8th Feb. 1814	Timothy Harris.
Drying and finishing paper [on heated cylinders]	4509	1st Nov. 1820	Thomas Bonsor Crompton
Process for applying paste and other adhesive matter to paper; sticking paper together with paste or other adhesive matter by means of machinery applicable to such purposes.	4959	20th May 1824	John Dickinson.
Sizing, glazing, or beautifying materials used in the manufacture of paper, pasteboard, Bristol-board, and other substances	5545	21st Aug. 1827	{ Gabriel de Sorns. Stacey Wise. Charles Wise.
Mode of applying size to paper	5983	18th Aug. 1830	{ Matthew Towgood. Leapridge Smith.
Surface for paper and pasteboard, vellum and parchment.	6324	21st Dec. 1839	George Lindsey Young.
Preparing surfaces of paper [by laying on a coating of oil paint, and subsequently glazing].	6458	30th March 1840	Henry Martin.
Producing glossy surfaces on paper and similar materials.	10,773	21st July 1845	John James Sinclair.
Machinery for damping paper [postage labels, &c.]	11,526	12th Jan. 1847	John Britten.
Drying paper	13,171	10th July 1850	Robert Rumney Crawford.
Sizing paper	13,306	2nd Nov. 1850	John Matthews.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAPER, &amp;c.—continued.</b>			
<b>III.—Cutting, Placing, Folding, making Envelopes.</b>			
Machine for cutting paper - - - - -	2950	24th July 1806	Henry Fourdrinier.
Machine for cutting and placing paper - - -	3056	30th June 1807	John Dickinson.
Machine for making paper in single sheets without seam or joining, &c. - - - - - [ <i>Prolongation by Act of Parliament of Patents, Nos. 2487 and 2708, assigned to S. and H. Fourdrinier :—15 years from 14th August 1807.</i> ]	3068*	14th Aug. 1807	{ Henry Fourdrinier. Sealy Fourdrinier. John Gamble.
Machinery for cutting and placing paper - -	3191	19th Jan. 1809	John Dickinson.
Machinery for cutting cards out of pasteboard or paper, and for cutting various other articles.	3352	19th June 1810	William Bell.
Machinery for cutting and placing paper - -	3452	21st May 1811	John Dickinson.
Machine for cutting the edges of paper and books -	3696	20th May 1813	Edward Cowper.
Machinery for cutting paper - - - - -	4152	5th Aug. 1817	John Dickinson.
Machinery for cutting paper; "patent paper plough"	4180	28th Nov. 1817	Francis Baisler.
Method of cutting cards by means of machinery -	4959	20th May 1824	John Dickinson.
Cutting paper - - - - -	5631	26th March 1828	Edward Cowper.
Cutting paper [ <i>by rotary cutters, separating it longitudinally</i> ] - - - - -	5655	13th May 1828	{ Thomas Bonsor Crompton Enoch Taylor.
Cutting paper and other materials into single sheets or pieces, by machinery.	5754	14th Jan. 1829	John Dickinson.
Cutting paper - - - - -	6025	1st Nov. 1830	Lewis Aubrey.
Machine for cutting paper - - - - -	6125	20th June 1831	Edward Newman Fourdrinier.
Cutting paper - - - - -	6245	15th March 1832	Matthew Towgood.
Machinery in part applicable to the cutting of paper - - - - -	7515	19th Dec. 1837	{ Christopher Nickels. Henry George Collins.
Paper-cutting machine - - - - -	8353	21st Jan. 1840	George Wilson.
Cutting the edges of books, and paper for other purposes.	9059	4th Sept. 1841	Richard Whitaker.
Shears and other apparatus for cutting, cropping, and shearing certain substances [ <i>cutting paper</i> ].	9110	7th Oct. 1841	Thomas Wells Ingram.
Machinery for cutting or shaping paper - - -	9529	3rd Dec. 1842	Thomas Mansell.
Apparatus for cutting books and other folded paper	10,103	14th March 1844	Frederick Stephenson.
Cutting paper for the manufacture of envelopes, and for other purposes.	10,230	19th June 1844	George Wilson.
Manufacture of envelopes - - - - -	10,565	17th March 1845	{ Edwin Hill. Warren De la Rue.
Machinery for cutting paper and other fabrics -	10,628	22nd April 1845	John Thomas Perkins.
Envelopes for letters - - - - -	10,866	9th Oct. 1845	Edmund Morgan.
Envelopes, wrappers, and covers; machinery for the manufacture thereof - - - - -	11,948	6th Nov. 1847	{ George Henry Bursell. Joseph Radford.
Facilitating the division of sheets or pieces of paper, parchment, or other similar substances [ <i>and postage stamps</i> ].	12,340	23rd Nov. 1848	Henry Archer.
Machinery for folding envelopes; manufacture of envelopes.	12,493	28th Feb. 1849	Amedée François Rémond.
Manufacture of envelopes and cases; tools and machinery used therein.	12,853	17th Nov. 1849	Thomas Worsdell.
Manufacture of envelopes - - - - -	12,804	19th Dec. 1849	Warren De la Rue.
Machinery for cutting paper - - - - -	13,092	5th Feb. 1850	Jonathan Charles Goodall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAPER, &amp;c.—continued.</b>			
Manufacture of envelopes - - - - -	13,036	15th April 1850	Amedée François Rémond.
Machine to fold paper - - - - -	13,175	17th July 1850	Edward N. Smith.
Machine for folding - - - - -	13,315	7th Nov. 1850	James Black.
Folding and cutting apparatus - - - - -	13,453	16th Jan. 1851	Gustav Adolph Buchholz.
Manufacture of envelopes; machinery used therein -	13,591	8th Jan. 1852	Joseph Addenbrooke.
Manufacture and ornamenting of envelopes;—partly applicable to other stationery; machinery, apparatus, or means to be used therein.	13,917	24th Jan. 1852	James Gathercole.
Machinery or apparatus for cutting paper, pasteboard, or other similar substances [ <i>for bookwork</i> ].	14,067	17th April 1852	William Edward Newton.
Safety envelope; machinery to be used in the manufacture of the same [ <i>employing woven fabrics</i> ].	14,123	8th May 1852	William Armitage.
Machinery for making envelopes and bags [ <i>folding and creasing</i> ].	14,352	17th Dec. 1852	George Shaw.
<b>IV.—Cards, Tickets, and Labels.</b>			
Making, dicing, or flowering playing cards - -	886	7th Dec. 1767	John Berkenhout.
Playing cards - - - - -	2365	20th Dec. 1799	{ Edward Ludlow. Ann Wilcox.
Manufacturing and ornamenting playing cards -	6231	23rd Feb. 1832	Thomas De la Rue.
Ascertaining and checking the number of checks or tickets which have been used and marked; applicable for railway offices, and for other purposes.	10,367	29th Oct. 1844	George Robert D'Harcourt.
Machinery for writing and booking, numbering, cutting, checking, and expediting the delivery and receipt of pawnbrokers' duplicates, pass tickets, and other like documents.	11,060	29th Jan. 1846	George Frederick Hall.
Manufacture of show cards or boards and labels -	11,512	31st Dec. 1846	{ George David Myers. William Cooper. James Wansbrough.
Marking and numbering railway and other tickets or surfaces; arranging and distributing tickets.	12,137	27th April 1848	Thomas Edmondson.
Show cards and holders for matches, pens, pins, needles, and other articles; manufacturing the same.	12,146	4th May 1848	Alexander Southwood Stocker.
Machinery for making playing and other cards, or articles made wholly or in part of paper or pasteboard;—partly applicable to other purposes where pressure is required - - - - -	12,298	26th Oct. 1848	{ William Church. Thomas Lewis.
Machinery to be employed in manufacturing cards and other articles composed wholly or in part of paper or pasteboard; part being applicable to printing the same, and part to other purposes where pressure is required.	12,994	7th March 1850	William Church.
Manufacture of railway and other tickets; machinery for making railway and other tickets.	13,007	19th March 1850	Thomas Edmondson.
Labels or tickets - - - - -	13,631	13th May 1851	Edward Wilkins.
Manufacture of playing cards - - - - -	13,648	29th May 1851	Joseph Reynolds.
<b>V.—Ornamenting, Embossing, making Paper Hangings.</b>			
Beautifying, figuring, imprinting, and embellishing blue and other coloured papers.	305	18th Oct. 1692	Nathaniel Gifford.
Marbling, veining, spotting, staining, clouding, and damasking paper - - - - -	461	28th Jan. 1724	{ Robert Redrich. Thomas Jones.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAPER, &amp;c.—continued.</b>			
Marbling paper by taking off the colours from a body of water prepared after a particular manner.	530	20th May 1731	Samuel Pope.
Manufacturing paper for hanging and ornamenting rooms, and for other purposes.	685	22nd Aug. 1753	Edward Dighton.
Gilding, colouring, and marbling paper - - -	770	10th March 1762	Henry Houseman.
Laying coats of composition or paint on paper, for receiving impressions of engraved copper plates.	1845	16th Jan. 1792	Anthony George Eckhardt.
Silvering paper to resemble damask for hangings -	1953	30th April 1793	Francis Frederick Eckhardt.
Ornamenting paper by embossing or enchasing -	3102	6th April 1796	John Gregory Hancock.
Making coloured paper for rooms - - -	3147	19th Nov. 1796	Thomas Cobb.
Depositing metals or mixtures of metals in paper instead of inlaying.	4247	16th April 1818	Robert Clayton.
Preparation of a certain composition, and its application to making dies, moulds, or matrices, smooth surfaces, and various other useful articles [for embossing paper and for forming architectural devices].	5195	21st June 1825	Philip Brooks.
Manufacture of paper for covering walls and hanging of rooms; apparatus for effecting the same.	5849	15th Sept. 1829	Thomas Cobb.
Manufacturing or preparing embossed paper-hangings.	6663	15th Aug. 1834	Thomas De la Rue.
Machinery for pressing paper - - -	6886	17th Aug. 1835	William Banks.
Embossing paper by means of a cylinder or roller -	6927	10th Nov. 1835	Thomas Greig.
Preparing surfaces of paper [by laying on a coating of oil-paint, and subsequently embossing].	8458	30th March 1840	Henry Martin.
Colouring the surfaces of paper and other materials with colour and other substances.	10,436	12th Dec. 1844	Warren De la Rue.
Manufacture of embossed or pressed paper - -	10,935	11th Nov. 1845	Charles Frederick Bielefeld.
Preparing sprinkled, granulated, or mottled paper, for bookbinders and others.	11,495	15th Dec. 1846	Mark Bingley.
Producing ornamental surfaces to paper and other substances.	12,243	15th Aug. 1848	Thomas De la Rue.
Manufacture of paper-hangings - - -	12,481	15th Feb. 1849	John Erwood.
Construction of machines for glazing, embossing, and finishing paper - - -	12,956	31st Jan. 1850	{ Thomas Bury. Nathan Ramsden.
Manufacture of paper-hangings - - -	13,393	7th Dec. 1850	George Henry Voyez.
Ornamenting paper and other fabrics - - -	13,707	31st July 1851	Joseph Mansell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAPIER-MÂCHÉ AND JAPANNED WARES.</b>			
<b>I.—Manufacturing.</b>			
Making japanned high varnished panels in paper, for carriages and sedan-chairs; also for rooms, doors, and cabins of ships, as well as for cabinets, screens, chimney-pieces, tables, trays, caddies, tea-chests, and dressing-boxes.	1027	20th Nov. 1772	Henry Clay.
Manufacture of certain kinds of papier-mâché, and other matters produced from paper pulp.	8037	20th April 1839	James Fergusson Saunders.
Construction of carriages used on railroads [ <i>forming the panels of papier-mâché</i> ].	8957	11th May 1841	Edmund Taylor.
Railway carriages [ <i>employing papier-mâché in the construction of railway wheels</i> ] - - - -	9261	15th Feb. 1842	{ Thomas Russell Crampton. John Coope Haddan.
Manufacturing papier-mâché and other articles made of vegetable pulp.	9953	21st Nov. 1843	John Coope Haddan.
Manufacture of japanners' ware and articles in substitution of papier-mâché.	10,064	21st Feb. 1844	William Sheldon.
Manufacture of trays and other japanned wares made of pulp.	10,653	6th May 1845	William Brindley.
Manufacture of embossed or pressed paper, calico, leather, and other fabrics and articles [ <i>papier-mâché</i> ].	10,935	11th Nov. 1845	Charles Frederick Bielefeld.
Making moulds or dies used in the manufacture of papier-mâché and other articles [ <i>by combining gum Taus, sulphur, balsam, or both, with gutta-percha</i> ].	11,289	14th July 1846	Charles Frederick Bielefeld.
Manufacturing papier-mâché articles - - - -	11,670	24th April 1847	Theodore Hila Jennens.
Rendering certain materials applicable as a substitute for papier-mâché in various articles of manufacture.	11,958	11th Nov. 1847	Samuel Salmen.
Manufacturing articles of papier-mâché - - - -	12,175	6th June 1848	William Brindley.
Manufacture of sheets of papier-mâché or similar substances.	13,531	24th Feb. 1851	Charles Frederick Bielefeld.
Manufacture of papier-mâché to be used in making carriages.	13,603	26th April 1851	John Coope Haddan.
Manufacture of papier-mâché and articles made } therefrom - - - - -	13,861	17th Dec. 1851	{ James Souter. James Worton.
<b>II.—Ornamenting.</b>			
Ornamenting japan wares with foil stones, Bristol stones, paste, and all sorts of pinched glass, sapped glass, and every other stone, glass, and composition used in or applicable to the jewellery trade.	1552	5th Aug. 1786	John Skidmore.
Ornamenting and painting japanned and varnished wares of metal, wood, paper, or any other composition, and various other articles.	3219	20th March 1809	Charles Valentine.
Ornamenting articles japanned, painted, or sized, whether made of paper, wood, or any metallic substance - - - - -	3593	6th Aug. 1812	{ Thomas Hubball. William Robert Wale King.
Preparing and working pearl-shell into various forms, applying it to ornamental uses in the manufacture of japan ware and other wares and articles [ <i>inlaying</i> ] - - - - -	5137	29th March 1825	{ Aaron Jennens. John Betteridge.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAPIER-MÂCHÉ, &amp;c.—continued.</b>			
Coating the surfaces of metal with papier-mâché -	9991	18th Dec. 1843	Benjamin Cooke, junior.
Ornamenting papier-mâché; manufacturing and ornamenting japanned goods generally.	10,224	12th June 1844	Thomas Farmer.
Ornamenting papier-mâché articles - - -	11,670	24th April 1847	Theodore Hyla Jennens.
Producing ornamental designs on papier-mâché -	12,850	17th Nov. 1849	William Brindley.
Ornamenting japanned metal and papier-mâché wares.	14,099	29th April 1852	George Goodman, junior.
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<b>PAVING, ROAD-MAKING, STREET-SWEEPING.</b>			
<b>I.—Making, paving, and repairing Roads and other Ways.</b>			
Engines or way-ploughs for making and repairing highways, roads, mounds, and banks of the sea, great rivers, and other waters; also making, sinking and repairing, ponds, drains, rivers, and watercourses.	13	23rd May 1619	John Shotbolt.
Engine for levelling and preserving roads and highways.	360	16th Feb. 1699	Nathaniel Bard.
Repairing highways so as to throw all the rising ridges into the ruts.	364	21st June 1699	Edmund Heming.
Machine for forming and repairing roads; "Tectonodes."	789	11th April 1763	Robert Lord.
Constructing a machine for cutting roads or ways through hills, and for other purposes.	1862	29th March 1792	Lewis Feuilleade.
Machinery for improving roads - - - -	2616	5th May 1802	Lawrence Hollister.
Machinery for improving turnpike and other roads	3067	1st Aug. 1807	Robert Dickinson.
Forming the ground for roads and pavements; paving and repairing old pavements and roads.	4015	9th April 1816	John Woodhouse.
Preparing streets and roads for horses and carriages.	4094	23rd Jan. 1817	Robert Dickinson.
Combination of machinery for repairing turnpike and other roads and highways, and keeping them in order.	4125	22nd May 1817	Philip Hutchinson Clay.
Applying granite or other material in the making or forming of pavement for streets, roads, ways, and places.	4239	8th April 1818	John James Alexander M <sup>c</sup> Carthy.
Paving, pitching, and covering streets, roads, and other places.	4616	20th Nov. 1821	Richard Macnamara.
Method to prevent the frequent removal of the pavement and carriage-paths for laying down and taking up pipes, and for other purposes, in streets, roads and public ways [making side trenches or underground sub-ways for laying water-pipes or gas-pipes].	4716	18th Oct. 1822	John Williams.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAVING, &amp;c.—continued.</b>			
Paving horse and carriage ways - - - - -	4908	28th Feb. 1824	Abraham Henry Chambers.
Paving parts of public roads, whereby the draught of waggons, carts, and other carriages is facilitated [ <i>by means of granite closely wedged</i> ].	5142	30th March 1825	Thomas Parkin.
Construction of horse and carriage ways of streets, turnpike and other roads.	5185	14th June 1825	John Lindsay.
Machine or combination of machinery for making, repairing, and cleansing roads and paths;—applicable or partly so to other purposes [ <i>cylindrical rollers</i> ].	5204	8th July 1825	John Biddie.
Paving streets, lanes, roads, and carriage-ways [ <i>with broken stones</i> ].	5449	15th Jan. 1827	William Hobson.
Constructing, forming or making streets, ways, carriage-roads, and highways in general [ <i>by means of paving-stones in iron frames</i> ] - - -	5830	11th Aug. 1829	{ James Rowland. Charles MacMillan.
Making or mending turnpike or common roads -	7077	3rd May 1836	John Macneill.
Making or mending turnpike and other roads -	7278	11th Jan. 1837	John Macneill.
Paving, pitching, or covering streets, roads, and other ways;—applicable to other purposes.	7324	15th March 1837	Richard Macnamara.
Making or paving streets, ways, roads, courts, and bridges, with timber or wooden blocks.	7645	19th May 1838	David Stead.
Paving roads and streets - - - - -	7863	8th Nov. 1838	John Browne.
Apparatus for transporting materials from place to place, applicable to road-cutting and embankments.	7896	6th Dec. 1838	Godefroy Cavaignac.
Paving or covering streets, roads, or other ways -	7957	29th Jan. 1839	Robert Carey.
Machinery for cutting and removing earth, applicable to levelling ground for roads and other similar earth-works.	8017	27th March 1839	William Newton.
Roads and ways - - - - -	8026	9th April 1839	Thomas Parkin.
Making and paving streets, ways, roads, paths, courts, and bridges, with timber or wooden blocks.	8041	23rd April 1839	David Stead.
Paving or covering streets, roads, and other ways -	8085	1st June 1839	Stephen Geary.
Paving roads and such like ways - - - - -	8153	15th July 1839	Daniel Ramee.
Paving or covering roads and other ways - -	8313	16th Dec. 1839	Henry Seymour Moore Vandeleur.
Wood paving - - - - -	8473	15th April 1840	William Grimman.
Paving streets, roads, and ways with blocks of wood; machinery for cutting such blocks.	8529	2nd June 1840	James Harvey.
Paving streets, roads, and ways - - - - -	8589	3rd Aug. 1840	William Saunders.
Form and combination of blocks used for paving and for other purposes.	8596	8th Aug. 1840	Thomas John Davis.
Paving or covering roads and other ways or surfaces [ <i>with blocks formed of india-rubber combined with sawdust, sand, or broken stone</i> ].	8617	7th Sept. 1840	William Freeman.
Constructing roads on which carriages may be impelled by motive-power.	8644	24th Sept. 1840	Henry Pinkus.
Paving streets, roads, bridges, squares, paths, and such like ways.	8657	7th Oct. 1840	Thomas Wood, junior.
Form and combination of, also mode of manufacturing blocks for pavement.	8939	27th April 1841	Benjamin Rankin.
Paving streets, roads, and other ways or surfaces -	8940	27th April 1841	Osborne Reynolda.
Roads - - - - -	8977	5th June 1841	Joseph Gibbs.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAVING, &amp;c.—continued.</b>			
Paving or covering roads and other ways or surfaces.	9097	21st Sept. 1841	Comte Melano de Calcina.
Covering ways and surfaces - - - - -	9153	16th Nov. 1841	Henry Mortimer.
Cutting wood, and incrustating the same in order to present a sure footing for horses and for other purposes [ <i>with a composition of asphalt, bitumen, blacklead, gas-tar, and other adhesive materials</i> ].	9183	25th Nov. 1841	Richard Gurney.
Covering surfaces with wood [ <i>combining small pieces of wood to form blocks for pavements</i> ].	9231	22nd Jan. 1842	Antoine Mertens.
Paving or covering roads and other surfaces; machinery for cutting the material used for the purpose.	9250	9th Feb. 1842	Frederick Harlow.
Covering streets, roads and other ways with wood; enabling horses to pass safely over them.	9266	25th Feb. 1842	Osborne Reynolds.
Pavements for streets, roads, and other surfaces; machinery for producing and repairing the same.	9397	21st June 1842	Joseph Bunnett.
Wood paving - - - - -	9410	7th July 1842	John Perring.
Paving streets, roads, and ways - - - - -	9432	1st Aug. 1842	Alfred John Phipps.
Paving or covering roads and other ways - - - - -	9443	11th Aug. 1842	Moses Poole.
Carriage-ways - - - - -	9473	16th Sept. 1842	William Henry James.
Constructing roads, ways, and other surfaces - - - - -	9488	13th Oct. 1842	Samuel Dotchin.
Roads - - - - -	9505	2nd Nov. 1842	Sir John Scott Lillie.
Paving streets, roads, and other places - - - - -	9588	14th Jan. 1843	James Harvey.
Paving or covering roads, streets, and other ways or surfaces.	9595	19th Jan. 1843	Thomas William Bennett.
Covering roads, ways, and other surfaces - - - - -	9606	26th Jan. 1843	Edward Smallwood.
Wood paving - - - - -	9640	21st Feb. 1843	{ Joseph Crannis. Robert Kemp.
Construction of roads - - - - -	9727	16th May 1843	{ William Prosser. John Lucena Ross Kettle.
Wood pavements - - - - -	9737	25th May 1843	Henry Austin.
Paving and covering streets, roads, or other ways - - - - -	9773	13th June 1843	John Galley Hartley.
Paving or covering roads, streets, or other ways or surfaces - - - - -	9781	15th June 1843	{ John Oliver York. William Johnson.
Paving roads, streets, and other places - - - - -	9979	8th Dec. 1843	John Bishop.
Paving and covering roads and other ways or surfaces.	10,187	15th May 1844	Peter Armand le Comte de Fontainemoreau.
Construction of roads - - - - -	10,387	9th Nov. 1844	William Prosser, junior.
Making roads and ways - - - - -	11,403	8th Oct. 1846	Marcel Jean Milon.
Paving roads, streets, yards, and other surfaces over which carriages and beasts of burden have to pass.	11,466	1st Dec. 1846	Richard Love.
Construction of roads and ways - - - - -	11,675	27th April 1847	Alfred Vincent Newton.
Railroads and other roads [ <i>formation of carriage-ways by lines of wooden blocks</i> ] - - - - -	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Making roads and ways, and covering the floors of courtyards, buildings, and other similar places [ <i>with asphalt, formed by employment and preparation of bituminous mastic and asphaltic rock</i> ].	12,729	1st Aug. 1849	Augustus Roehn.
Paving streets and other surfaces - - - - -	13,228	22nd Aug. 1850	Edmée Augustin Chame-roy.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAVING, &amp;c.—continued.</b>			
Paving - - - - -	13,374	30th Nov. 1850	Francis Frederick Woods.
Paving - - - - -	13,387	7th Dec. 1850	Samuel Rayner.
Paving or covering roads, streets, and other surfaces.	13,446	11th Jan. 1851	Thomas Allan.
Constructing roads and ways, pavements of streets, and the ballast of railways.	13,514	17th Feb. 1851	Henry François Marie De Pons.
Construction of roads and ways;—partly applicable to other purposes.	13,653	3rd June 1851	William Bridges Adams.
Improvements applicable to paving - - -	13,760	2nd Oct. 1851	Thomas Warren.
Forming or covering roads and other surfaces -	13,765	9th Oct. 1851	Sir John Scott Lillie.
Improvements applicable to paving - - -	14,298	18th Sept. 1852	{ James Warren. Bernard Peard Walker.
<b>II.—Cleansing Streets and Roads.</b>			
Cleansing streets - - - - -	173	24th Feb. 1674	Thomas Togood.
Sweeping streets, greens, and walks; loading the dirt, dust, or soil.	364	21st June 1699	Edmund Heming.
Machine or combination of machinery for cleansing roads and paths.	5204	8th July 1825	John Biddle.
Circumvolution brush and hander [ <i>for sweeping paths, and mounted on a rotary axle for the purpose of collecting leaves as it revolves</i> ].	5275	1st Nov. 1825	William Ranyard.
Clearing out watercourses - - - - -	5698	4th Sept. 1828	William Farish.
Machinery for scraping, sweeping, and cleaning streets, roads, and other ways [ <i>travelling machine, having a rotary brush and scraper</i> ] - - -	5728	10th Dec. 1828	{ John Boase. Thomas Smith.
Machine for scraping or cleaning roads and other ways.	6826	22nd Oct. 1832	John Bourne.
Machinery for raking, scraping and sweeping roads and streets.	6999	10th Feb. 1836	Frederick Herbert Maberley.
Machinery for cleaning and repairing roads or ways;—applicable to other purposes.	8475	15th April 1840	Joseph Whitworth.
Apparatus for cleaning roads;—applicable to other purposes.	9433	2nd Aug. 1842	Joseph Whitworth.
Machinery for clearing, cleaning, and watering, and for wholly or partly covering with sand or other materials, roads, streets, or ways;—applicable to other like purposes.	9836	13th July 1843	Stephen Geary.
Machinery for sweeping or cleaning streets, roads, or ways.	10,317	12th Sept. 1844	Webster Flockton.
Construction and arrangement of machinery for cleansing, watering, breaking up, and raking, streets, roads, lanes, and other ways - - -	10,356	17th Oct. 1844	{ Frederick Herbert Maberley. Stephen Geary. Joseph Croucher.
Machinery or apparatus for cleansing roads or ways;—applicable to other similar purposes.	12,412	11th Jan. 1849	William Walker.
Machines for sweeping and cleansing roads and ways.	13,720	14th Aug. 1851	Joseph Birkbeck Blundell.
Machinery or apparatus applicable to the purposes of brushing and cleaning.	14,268	19th Aug. 1852	Charles Butler Clough.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAVING, &amp;c.—continued.</b>			
<b>III.—Pavements, and Materials for Paving.</b>			
Pavement or covering, or a method of paving, pitching, or covering streets, roads, and ways.	3915	11th May 1815	John James Alexander MacCarthy.
Preparing substances for forming highways and other roads;—applicable to other purposes [ <i>vitriified clay</i> ].	4441	18th March 1820	Abraham Henry Chambers.
Pavement, pitching and covering for streets, roads, ways, and places [ <i>stones with indentations on their sides</i> ].	5287	10th Nov. 1825	John James Alexander MacCarthy.
Preparing and applying materials for making or rendering more durable roads and other ways, which materials so prepared are applicable to other purposes.	5652	6th May 1828	John Benjamin Macneil.
Composition for paving roads, streets, terraces, and other places; apparatus for making same.	7626	25th April 1838	Alexandre Happey.
Surface applicable to roads or pavements - -	7786	30th Aug. 1838	William Dolier.
Artificial granite, stone, marble, or concrete, in which neither asphaltic nor bituminous substances are used [ <i>for pavements</i> ].	7991	6th March 1839	George Robert D'Harcourt.
Forms or shapes of materials and substances used for paving; their combination for such purpose [ <i>stone and wood blocks</i> ].	8135	27th June 1839	Richard Hodgson.
Method of combining and applying materials applicable to the formation or construction of roads or ways [ <i>wooden blocks with circular indentations on the surface, with buttress sleepers, and a foundation of close set rubble stones</i> ].	8663	15th Oct. 1840	Henry Pinkus.
Incrustating wood so as to present a sure footing for horses, also for other purposes.	9163	25th Nov. 1841	Richard Gurney.
Pavements for streets, roads, and other surfaces; machinery for producing and repairing the same.	9397	21st June 1842	Joseph Bunnett.
Mastic or cement, which may be also applied as an artificial stone, and for coating metals and other substances [ <i>blocks or slabs for paving</i> ].	9847	20th July 1843	Charles Bertram.
Combination of materials to be used as a substitute for canvas and other surfaces employed as grounds for painting, some of which combinations are applicable to other purposes [ <i>for paving</i> ].	10,054	14th Feb. 1844	Elijah Galloway.
Machinery for making and compressing square pavers	10,152	18th April 1844	William Hodson.
Combination of materials suitable for paving, and most other purposes to which wood and iron are applied.	10,327	26th Sept. 1844	Edwin Edward Cassell.
Improvements, compositions, and combinations of certain materials applicable for manufacturing pavement slabs, and for other purposes - -	10,968	20th Nov. 1845	{ George Skinner. George Whalley.
Manufacture of artificial stone [ <i>for paving</i> ] - -	12,103	22nd March 1848	Joseph Orsi.
Flags and curbs for pavement and tramroads -	12,566	16th April 1849	Louis Prosper Nicolas Duval Piron.
Pavement - - - - -	12,761	6th Sept. 1849	John Hosking.
Melting, moulding and casting sand, earth, and argillaceous substances, for paving and for various other purposes.	13,172	10th July 1850	Jacob Connop.
Constructing pavements of streets - - -	13,514	17th Feb. 1851	Henry François Marie De Pons.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAVING, &amp;c.—continued.</b>			
Manufacture of kamptulicon - - - - -	13,713	7th Aug. 1851	Lockington S' Laurence Bunn.
Preparing compositions to be used in railways and other structures, in substitution of iron, wood, and stone [ <i>applicable as a cement for paving purposes</i> ].	13,941	31st Jan. 1852	Owen Williams.
<b>IV.—Tessellated or Mosaic Pavements.</b>			
Designing, making and forming mosaics and ornaments in the Arabian style.	3248	26th July 1809	James Cavanah Murphy.
Preparation and combination of earthenware or porcelain for mosaic or tessellated work - - }	8042	23rd April 1839	{ Alfred Singer. Henry Pether.
Production of mosaic work from wood - - -	8701	12th Nov. 1840	Otto C. Von Almonde.
Mosaic work - - - - -	9689	5th Oct. 1843	Richard Boote.
Manufacture of mosaics - - - - -	10,130	30th March 1844	John Robert Dicksee.
Mosaic and tessellated work made of wood - -	12,248	22nd June 1846	{ Henry Austin. Thomas Webster Ram- mell.
<b>PEARL, IVORY, HORN, AND BONE.</b>			
Making mock pearl from mother-of-pearl, shell, and glass.	1039	3rd April 1773	Samuel Archer.
Cleansing, gunning, and scouring whalebone - -	3581	16th July 1812	John Simpson.
Preparing and working pearl-shell into various forms; applying it to ornamental uses in the manufacture of japan ware and other wares and articles - - - - - }	5137	29th March 1825	{ Aaron Jennens. John Betteridge.
Compositions which are made to resemble ivory, bone, horn, mother-of-pearl, and other substances, applicable to the manufacture of handles of knives, forks, and razors, pianoforte-keys, snuff-boxes, and various other articles - - - }	8131	26th June 1839	{ James Bingham. John Amory Boden.
Compositions which are made to resemble ivory, bone, horn, mother-of-pearl, and other substances, applicable to the manufacture of handles of knives, forks, and razors, pianoforte-keys, snuff-boxes, and various other articles - - - }	8361	25th Jan. 1840	{ James Bingham. John Amory Boden.
Compositions which are made to resemble ivory, bone, horn, mother-of-pearl, and other substances, applicable to the manufacture of handles of knives, forks, and razors, pianoforte-keys, snuff-boxes, and various other articles.	8616	3rd Sept. 1840	James Bingham.
Treating and preparing whalebone and the fins and similar parts of whales; rendering them fit for commercial and other purposes.	8685	17th March 1841	Lawrence Kortright.
Methods of imitating ivory and bone - - -	13,137	19th June 1850	Benjamin Cheverton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PERUKES OR WIGS.</b>			
Elastic periwig - - - - -	1052	5th Aug. 1773	Peter Hurliston.
Lengthening human and other hair, for making tails, braids and curls to cover and adorn the human head; also a method of mounting the same.	1534	27th Feb. 1786	Francis Day.
Making perukes or wigs, with fastenings made of elastic compressed steel springs.	2444	21st Oct. 1800	Thomas Bowman.
Making perukes and scalps - - - - -	2555	10th Nov. 1801	William Robinson.
Perukes or wigs - - - - -	2665	29th Nov. 1802	Alexander Ross.
Making perukes of hair woven with silk or other materials.	3076	21st Oct. 1807	Louis Caron.
Forensic wig, the curls whereof are constructed to supersede the necessity of frizzing, curling, or using hard pomatum, and the tails do not require to be tied.	4636	14th Jan. 1822	Humphrey William Ravenscroft.
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<b>PINS AND NEEDLES.</b>			
<b>I.—Manufacture of Pins.</b>			
Making knitting-pins and mesh-pins - - - - -	2063	8th Sept. 1795	William Bell.
Making pins with iron and other metals; making the same white.	2182	4th July 1797	Timothy Harris.
Heading pins - - - - -	3268	28th Sept. 1809	William Bundy.
Machine for heading pins - - - - -	3555	15th April 1812	{ John Leigh Bradbury. Charles Weaver.
Machinery for making pins - - - - -	4129	23rd May 1817	Seth Hunt.
Machinery for making pins; also combinations of such machinery.	4955	15th May 1824	Lemuel Wellman Wright.
Useful and ornamental dressing-pins - - - - -	5386	14th July 1826	Benjamin Lowe.
Machinery for making pins - - - - -	6200	22nd Dec. 1831	{ Daniel Ledsam. William Jones.
Machinery for making pins for fastening wearing-apparel.	6444	27th June 1833	George Beale Brown.
Machinery to be used in the manufacture of pins -	6513	21st Nov. 1833	{ Daniel Ledsam. William Jones.
Machinery for making pins - - - - -	6578	18th March 1834	Samuel Slocum.
Machinery for making pins - - - - -	6599	24th April 1834	John Bethell.
Machinery for making pins - - - - -	6911	22nd Oct. 1835	Samuel Slocum.
Machinery for pointing wire applicable for making pins.	6917	29th Oct. 1835	John Birkby.
Machinery and combinations of machinery for making pins ( <i>extension of patent No. 4,955, for 5 years</i> ) - - - - -	7418	21st Aug. 1837	{ Henry Shuttleworth. Daniel Foot Taylor.
Machinery for making or manufacturing pins;—applicable to various useful purposes.	7623	24th April 1838	Francis Pope.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PINS AND NEEDLES—continued.</b>			
Machinery for making pins and sticking them in paper.	8289	2nd Dec. 1839	Miles Berry.
Machinery for making pins - - - - -	8531	2nd June 1840	William Southwood Stocker.
Manufacture of mourning and other dress pins -	8640	24th Sept. 1840	George Goodman.
Machinery for making pins - - - - -	9036	28th July 1841	William Newton.
Machines for making pins and sticking them into paper.	9054	27th Aug. 1841	William Walker Jenkins.
Machinery for making pins - - - - -	9657	7th March 1843	William Newton.
Manufacturing pins - - - - -	10,824	19th Sept. 1844	William Newton.
Carding certain dress-fastenings and other articles; fabrics employed for the purpose.	11,140	25th March 1846	Charles Iles.
Manufacture of pins - - - - -	11,171	18th April 1846	Joseph Clinton Robertson.
Machinery for the manufacture of pins - - - -	11,620	10th March 1847	Louis Nicolas De Meckenheim.
Manufacture of pins [ <i>applying coloured enamels or japans</i> ].	12,009	31st Dec. 1847	Mary Jenkins.
Articles to be attached to dresses [ <i>making shawl and dress pins</i> ].	12,796	12th Oct. 1849	Charles Rowley.
Manufacture of dress pins and other dress-fastenings and ornaments.	13,371	30th Nov. 1850	Charles Rowley.
Manufacture of dress and other pins, and other dress-fastenings and ornaments.	13,415	19th Dec. 1850	John George Taylor.
Chain-pins and other fastenings for wearing-ap- parel - - - - -	13,609	29th April 1851	{ Benjamin William Goode. Richard Boland. James Newnan.
Manufacture of pins and other similar articles -	13,654	3rd June 1851	Cornelius Alfred Jaquin.
Improvements partly applicable to arranging, feeding, and assorting pins and other articles of various sizes.	14,084	22nd April 1852	Alfred Vincent Newton.
Manufacturing wire into pins - - - - -	14,184	24th June 1852	Samuel Lusty.
<b>II.—Manufacture of Needles.</b>			
Making needles - - - - -	1097	10th June 1775	William Sheward.
Finishing, effecting, and completing the eye of a needle to prevent it cutting the thread.	1683	9th June 1789	William Sheward.
Making needles, bodkins, netting-needles, and sail-needles.	2063	8th Sept. 1795	William Bell.
Making needles - - - - -	3571	2nd June 1812	John Scambler.
Machinery to be used in the manufacture of needles	6513	21st Nov. 1833	{ Daniel Ledsam. William Jones.
Machinery for making needles - - - - -	7034	17th March 1836	John Birkby.
Making needles - - - - -	7485	25th Nov. 1837	Samuel Cocker.
Making needles; machinery employed therein -	7923	3rd Jan. 1839	Abel Morrall.
Manufacture of needles - - - - -	8606	17th Aug. 1840	Luke Hebert.
Process of manufacturing needles - - - - -	12,370	16th Dec. 1848	Henry Walker.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PIPES, TUBES, AND DRAIN-TILES.</b>			
<b>I.—Making and boring Pipes of Stone, Wood, and other Materials.</b>			
Erecting and framing a tunnel or pipes of timber -	8	11th Jan. 1618	Robert Crumpe.
Instrument or corrected crane for transfusing liquids from one vessel to another.	59	20th July 1632	Thomas Grent.
Engine for boring stone in either a straight or circular direction or form, for pipes, pumps, and other uses.	498	21st May 1728	Bryan Moore.
Engine for making stone water-pipes - - -	549	21st Nov. 1734	John Tuite.
Making pipes and spouts for conveying water and other liquids.	1805	11th May 1791	Charles Wyatt.
Pipe made of flaxen yarn, without seam, for conveying water from engines, and for other purposes.	1854	27th Feb. 1792	Jean Rudolf Hegner.
Machine for boring wooden water-pipes - - -	2113	31st May 1796	John Howell.
Making pipes or tubes of solid blocks of stone -	2253	3rd Aug. 1798	William Docker.
Machine for boring timber for water-pipes and other purposes.	2499	12th May 1801	Joseph Chirm.
Apparatus to be applied to engines for conveying fluids therefrom.	2568	2nd Jan. 1802	Thomas Parkinson.
Bent tube or apparatus for introducing air into vessels containing fluids, or vice versa.	2656	6th Nov. 1802	Thomas Barnett.
Articles denominated "Tatham's clumps," for the purpose of constructing water-pipes, sewers, tunnels, wells, conduits, reservoirs, or other circular walls, shells, or buildings, by various modifications of the said invention, by means of divers methods of shoulderings, securings, and combinations of earth, stone, plaster, cements, composition, kiln-burnt materials, &c., keyed together by means of wedges, joints, clumps, or other fastenings, so that all the pieces may be combined together in forming one strong and secure utensil, apparatus or contrivance, for constructing circular walls, columns, rollers, and for attaining hydraulic communications, or resisting the application of any reasonable force with effect - - - - -	2672	21st Dec. 1802	{ John Scott. James Clarkson. William Tatham. Samuel Mellish.
Manufacturing pipes for conveyance of water under ground - - - - -	2999	22nd Dec. 1806	{ Anthony George Eckhardt. Joseph Lyon.
Pipes for conveyance of water and other fluids -	3127	30th April 1808	William Bell.
Boring and forming pipes out of solid blocks and slabs of stone.	3292	15th Jan. 1810	William Murdock.
Joining stone pipes - - - - -	3355	3rd July 1810	Samuel Hill.
Joining pipes - - - - -	3391	8th Oct. 1810	{ Charles Francis. William Waters.
Constructing, laying and organizing pipes for conveyance of water for the supply of cities, towns, or other places where public waterworks are adopted.	3611	31st Oct. 1812	Joseph Bramah.
Joining water-pipes - - - - -	3793	23rd March 1814	William Alfred Noble.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PIPES, TUBES, &amp;c.—continued.</b>			
Apparatus for conducting and containing water and other fluids, and preserving the same from the effects of frost [ <i>coating the pipes with pulverized charcoal</i> ].	5077	11th Jan. 1825	Thomas Magrath.
Machinery or apparatus for manufacturing pipes -	8454	27th March 1840	Richard Prosser.
Manufacture of tubes and pipes - - - - -	8464	4th April 1840	Thomas Smedley.
Construction of pipes, tubes, or channels for conveyance of water.	10,192	22nd May 1844	Thomas Martin.
Combination of materials suitable for piping, and most other purposes to which wood and iron are applicable.	10,327	26th Sept. 1844	Edwin Edward Cassell.
Tube - - - - -	10,380	5th Nov. 1844	Joseph Thomas.
Manufacture of glass; casting, rolling, moulding, blowing, and drawing the same [ <i>glass tubes</i> ] -	10,869	17th May 1845	{ Apsley Pellatt. Frederick Pellatt.
Apparatus partly applicable to the manufacture of pipes and tubes.	10,981	5th Dec. 1845	Henry Bessemer.
Machinery for making tubes or tubular articles;—applicable to other purposes.	11,197	5th May 1846	William Church.
Making joints and connections of pipes - - -	11,728	3rd June 1847	Josiah George Jennings.
Manufacture of tubing - - - - -	12,189	15th June 1848	{ James Roose. William Hadon Richardson.
Manufacture of tubes; manufacture of certain articles made in part of tubes - - - - -	12,268	14th Sept. 1848	{ Robert Walter Wingfield. John Ward.
Application and preparation of coal-tar [ <i>coating water-pipes with tar</i> ].	12,291	19th Oct. 1848	Robert Angus Smith.
Manufacture of pipes or tubes - - - - -	12,795	5th Oct. 1849	Alfred Vincent Newton.
Suction and delivery pipes; connecting such pipes or hose.	12,922	11th Jan. 1850	Bennett Alfred Burton.
Manufacture of cylindrical or other tubes - -	13,083	25th May 1850	John Hickman.
Improvements applicable to the manufacture of tubes and other like articles of utility.	13,109	8th June 1850	William Newton.
Tubes and other hollow articles; preparation of materials for such purposes; machinery employed in such or similar manufactures.	13,550	10th March 1851	Jean Baptiste Alphonse Brunet.
Manufacture of pipes [ <i>and hollow vessels</i> ] - -	13,788	23rd Oct. 1851	Henry Adcock.
Treatment, manufacture, and application of materials or substances for building purposes [ <i>making pipes from combinations of broken stones, mineral earths, sawdust, coal, papier-mâché, gutta-percha, and other articles</i> ].	13,850	8th Dec. 1851	William Pidding.
Apparatus for aerating liquids; ornamenting such apparatus [ <i>construction and arrangement of aerating tubes</i> ].	14,300	23rd Sept. 1852	François Mathieu.
<b>II.—Making and moulding Pipes of Plastic Substances.</b>			
1. ( <i>Water and other Pipes.</i> )			
Making an engine for the purpose of making and casting in clay, earthenware-pipes for conveyance of water.	11	12th Jan. 1619	John Etherington.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PIPES, TUBES, &amp;c.—continued.</b>			
Making pipes of clay or earth for conveying water underground from place to place.	480	28th June 1725	William Edwards.
Machine, new principle or method, by means whereof, and of clay, loam, or similar materials, to make tubes, gutters, channels, or cylinders to convey water, smoke, steam, or any fluid or soft substance.	3319	22nd March 1810	Johann George Deyerlein.
Applying air for manufacturing and domestic purposes, and employing therein improved fireplaces and bricks [ <i>pottery or glass bricks for conveying warm or cold air</i> ].	3664	13th March 1813	Benford Deacon.
Pipes of purified earth, for conveying water, steam, gas, or any other fluid.	3803	18th April 1814	John Reid.
Making pipes and tubes of porcelain, clay, or other ductile substances - - - - - }	4183	5th Dec. 1817	{ William Bush. Robert Harvey.
Manufacturing pipes or tubes for the conveyance of water, gas, and other fluids [ <i>of clay</i> ].	5232	8th Aug. 1825	Samuel Bagshaw.
Mortar or cement for building; also for mouldings, castings, statuary, tiles, pottery, imitation of soft and hard rocks, and for other useful purposes [ <i>gas and water pipes</i> ].	8391	22nd Feb. 1840	Thomas Kerr.
Manufacture of pipes for conveying water and other fluids [ <i>glass tubes</i> ].	10,634	22nd April 1845	Freeman Roe.
Machines for manufacture of tiles and other plastic substances [ <i>pipes</i> ].	11,041	15th Jan. 1846	William Benson.
Manufacture of tiles, pipes, and other articles of plastic materials; preparation of plastic materials for the purpose - - - - - }	11,282	6th July 1846	{ Frederick Ransome. John Crabb Blair Warren.
Manufacture of pipes of earthenware, pottery, and glass; certain applications and arrangements thereof [ <i>for telegraph wires and other purposes</i> ].	12,079	8th March 1848	Francis Wishaw.
Manufacture of artificial stone and cement [ <i>for making pipes</i> ].	12,103	22nd March 1848	Joseph Orsi.
Machinery for manufacturing pipes or tubes from clay or other plastic materials.	12,115	10th April 1848	Thomas Spencer.
Mode of uniting or combining pipes or lengths of pipes, tubes, or channels, formed of glass, earthenware, or other similar materials.	12,405	11th Jan. 1849	William Rowe.
Manufacture of earthenware tubes or pipes - - -	12,495	28th Feb. 1849	Charles Jacob.
Manufacture of pipes from plastic materials; machinery employed therein.	12,645	7th June 1849	Bennett Alfred Burton.
Cutting plastic tubes or tiles - - - - -	12,677	27th June 1849	William Wilson.
Connecting tubes and pipes and other surfaces of glass and earthenware; connecting other matters of glass and earthenware.	12,976	21st Feb. 1850	William Mayo.
Manufacture of pipes of elastic matter - - -	13,037	15th April 1850	Edmé Augustin Chame-roy.
Manufacture of pipes from plastic materials - - -	13,064	27th April 1850	William Gilbert Elliott.
Forming and moulding plastic substances; apparatus employed therein [ <i>manufacturing gutta-percha and similar plastic materials into tubings</i> ].	13,146	20th June 1850	John Hunt.
Construction of roads and ways for the transit of passengers, materials, and goods, locomotive-engines and carriages;—partly applicable to other like purposes [ <i>application of hollow girders or rails as water-pipes</i> ].	13,653	3rd June 1851	William Bridges Adams.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PIPES, TUBES, &amp;c.—continued.</b>			
Construction and manufacture of water-ways, pipes, and receptacles for liquids, from a substance not hitherto used for the purpose [ <i>bitumen, petroleum, or natural pitch of Trinidad</i> ].	13,698	22nd July 1851	Thomas Earl of Dundonald.
Manufacture of tubes, pipes, and other articles made from plastic materials.	13,964	19th Dec. 1851	Henry Clayton.
2. ( <i>Tobacco-pipes.</i> )			
Manufacture of tobacco-pipes and other like articles	12,197	30th June 1848	Joseph Skertchly.
Manufacture of tobacco-pipes - - - -	12,202	6th July 1848	{ Enoch Steel. William Britter.
Pipes for smoking, and apparatus connected therewith.	12,967	4th March 1850	William Edwards Staite.
Apparatus for smoking cigars - - - -	13,240	29th Aug. 1850	George Augustus Huddart.
Preventing the injurious effects arising from the smoking of tobacco [ <i>intercepting the noxious oils, by causing the smoke to percolate through fibrous materials placed within the bowl of the pipe: construction and arrangement of pipes for the purpose</i> ].	13,747	18th Sept. 1851	George Phillips.
<b>III.—Making Metallic Pipes and Tubes; Syphons.</b>			
Erecting and framing a tunnel or pipe of lead, &c. -	8	11th Jan. 1618	Robert Crumpe.
Making lead pipes - - - - -	1735	13th March 1790	John Wilkinson.
Manufacture of lead pipes, the same being lined with tin.	2749	26th Jan. 1804	George Alderson.
Lining water-spouts with a certain material not hitherto used for the purpose - - - - }	2849	18th May 1805	{ Charles Hobson. Charles Sylvester. John Moorhouse.
Forming pipes and other articles in lead, pewter, tin, or metal of that nature.	3249	26th July 1809	Richard Heaps.
Applying air for manufacturing and domestic purposes, and employing therein improved fireplaces and bricks [ <i>metallic tubes or tubical bricks, for conveying warm or cold air</i> ].	3664	13th March 1813	Benford Deacon.
Constructing pipes or tubes of tin, copper, sheet-lead, sheet-iron, or other metals or mixture of metals capable of being reduced into sheets.	4191	19th Dec. 1817	Jean Frederic Marquis de Chabannes.
Manufacturing pipes, tubes, or conductors for gas and for other purposes.	4361	24th April 1819	Joseph Weatherly Phipson.
Machinery for making lead and other metal into pipes	4445	11th April 1820	Thomas Burr.
Making metallic pipes, tubes, or cylinders, by the application and arrangement in apparatus of certain machinery and mechanical powers [ <i>by forcing melted metal through a mould having a core</i> ].	4641	29th Jan. 1822	John Hague.
Metallic tubes adapted to and for the construction of masts, yards, booms, and bowsprits, or for any other purposes.	4644	5th Feb. 1822	Robert Bill.
Manufacture of tubes for gas [ <i>of strips of sheet-iron, welded</i> ].	4892	19th Jan. 1824	James Russell.
Machinery and process for making metallic pipes and other articles.	4942	15th April 1284	Thomas Gethen.
Manufacturing tubes for gas and for other purposes [ <i>welding tubes</i> ].	5109	26th Feb. 1825	Cornelius Whitehouse.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PIPES, TUBES, &amp;c.—continued.</b>			
Construction of railways and tramroads [ <i>the rails made of tubes</i> ].	5160	10th May 1825	Thomas Hill.
Constructing pipes or tubes for the passage or conveyance of fluids [ <i>of iron or wood, connecting the edges by an overlapping strip</i> ].	5208	16th July 1825	Walter Hancock.
Making metallic tubes, whereby strength and lightness are obtained.	5403	17th Aug. 1826	John Thomas Thompson.
Tubes or rods produced by a new method of manufacture.	5573	4th Dec. 1827	Robert Walter Winfield.
Machinery for forming tubes or rods, and for other purposes.	5641	26th April 1828	Thomas Breidenbach.
Making iron pipes and tubes - - - - -	6097	21st March 1831	George Royl.
Machinery and process for manufacturing metallic tubes - - - - -	6995	3rd Feb. 1836	{ Frederick Edward Harvey. Jeremiah Brown.
Making welded iron tubes - - - - -	7081	3rd May 1836	Thomas Henry Russell.
Manufacture of pipes or tubes and other articles of lead and other metals - - - - -	7284	24th Nov. 1836	{ Thomas Ellis. Thomas Burr.
Machinery for making pipes, tubes, and various other articles, from metallic and other substances	7427	31st Aug. 1837	{ John Hanson. Charles Hanson.
Machinery for manufacturing pipes or tubes and other articles, from lead and other metallic substances.	7494	2nd Dec. 1837	William Occleshaw.
Manufacture of brass and copper tubing - - -	7707	27th June 1838	Charles Green.
Combinations of metals applicable to the making of pipes or tubes, and to other purposes; method of making tubes or pipes therefrom, which method is applicable to the making of tubes or pipes from other metals and combinations of metals.	7909	17th Dec. 1838	Job Cutler.
Manufacturing tubes for gas and for other purposes [ <i>extension of C. Whitehouse's patent, No. 5109, for four years, from 26th February 1839</i> ].	7982	26th Feb. 1839	James Russell.
Manufacturing tubing or tubes applicable to gas and to other purposes.	8453	27th March 1840	Alexander Southwood Stocker.
Manufacture of tubes for gas and for other purposes	8536	9th June 1840	Alexander Southwood Stocker.
Manufacture of copper tubes - - - - -	8793	14th Jan. 1841	Alexander Jones.
Construction of pipes for circulation of hot water for heating purposes.	8804	21st Jan. 1841	Angier March Perkins.
Manufacture of brass and copper tubes - - -	8838	8th Feb. 1841	Charles Green.
Manufacturing metallic tubes; joining them or other tubes or pieces for various purposes - -	9187	16th Dec. 1841	{ William Church. Jonathan Harlow.
Manufacture of welded iron tubing - - -	9287	7th March 1842	{ Thomas Henry Russell. Cornelius Whitehouse.
Metal pipes, and the manufacture thereof - -	9403	6th July 1842	John Harrison Scott.
Combining materials to be used for cementing purposes and for preventing the passage of fluids; forming or constructing articles from such compositions of materials [ <i>may be formed into tubes for the passage of gas and other fluids</i> ].	9487	8th Oct. 1842	Claude Edward Deutsche.
Manufacture of tin tubes and other soft metal tubes.	9703	20th April 1843	John Rand.
Machinery to be used in manufacturing pipes and bars;—applicable to various purposes - -	9707	20th April 1843	{ Richard Prosser. Job Cutler.
Manufacturing welded iron tubes - - - - -	9723	9th May 1843	James Roose.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PIPES, TUBES, &amp;c.—continued.</b>			
Manufacture of cast-iron pipes and other iron castings.	10,098	14th March 1844	Charles Harrison.
Welding tubes or hollow rods of malleable iron, by machinery.	10,122	28th March 1844	James Hardy.
Manufacture of welded iron tubes - - - -	10,272	24th July 1844	{ John James Russell. Thomas Henry Russell.
Manufacture of pipes or tubes which are formed by welding skelps of wrought iron.	10,546	8th March 1845	George Selby.
Locomotive, marine, steam, gas, and other tubes -	10,621	17th April 1845	George Royle.
Manufacture of metal tubes; machinery and apparatus for producing the same.	10,649	1st May 1845	Richard Prosser.
Construction and manufacture of pipes and tubes for locomotive purposes, and conveyance of water, gas, and other fluids.	10,654	6th May 1845	James Foreman.
Manufacture of metallic tubes or pipes, by machinery.	10,710	5th June 1845	James Hardy.
Manufacture of tubes for atmospheric railways and other purposes.	10,779	21st July 1845	Jacob Brett.
Manufacture of welded iron tubes - - - -	10,816	14th Aug. 1845	Thomas Henry Russell.
Machinery for manufacturing metal pipes or tubes -	10,840	26th Sept. 1845	Alfred Vincent Newton.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>lining iron pipes with earthenware or glass tubes; enamelling the interior of iron pipes</i> ].	11,149	25th March 1846	Charles Smith.
Manufacture of welded iron tubes - - - -	11,360	29th Aug. 1846	James Roose.
Manufacture of gas pipes and other pipes - -	11,377	17th Sept. 1846	William Palmer.
Machinery for making, uniting, and preserving, metallic and other tubes and pipes [ <i>by rivetting, claspings, and soldering</i> ].	11,968	18th Nov. 1847	Peter Armand le Comte de Fontainemoreau.
Welded iron pipes or tubes to be used as the flues of steam-boilers - - - -	12,021	13th Jan. 1848	{ Job Cutler. Charles Robinson.
Bending flat plates of malleable metals or mixtures, by aid of machinery, into the form of tubes.	12,158	18th May 1848	William Taylor.
Manufacture of tubes; manufacture of certain articles made in part of tubes [ <i>double tubes of brass for gas-fittings</i> ].	12,268	14th Sept. 1848	{ Robert Walter Wingfield. John Ward.
Manufacture of metallic tubes - - - -	12,334	21st Nov. 1848	John Oliver York.
Manufacture of metal pipes or tubes - - - -	12,500	28th Feb. 1849	Job Cutler.
Tubes and pipes for pavement and tramroads - -	12,566	16th April 1849	Louis Prosper Nicolas Duval Piron.
Tubes for locomotive and other boilers [ <i>of brass, copper, or alloys of copper</i> ].	12,812	12th Oct. 1849	James Banister.
Manufacture of iron pipes or tubes - - - -	12,918	3rd Jan. 1850	{ Alexander Brodie Cochran. Archibald Slate.
Machinery and apparatus for manufacturing metal tubes; partly applicable for other purposes where pressure is required; applying metal tubes in steam-boilers or other vessels requiring metal tubes to be applied within them.	13,035	11th April 1850	Richard Prosser.
Manufacture of pipes of malleable substances as well as of elastic matter.	13,037	15th April 1850	Edmé Augustin Chameroy.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PIPES, TUBES, &amp;c.—continued.</b>			
Method of making tubing of copper or alloys of copper.	13,042	15th April 1850	George Attwood.
Manufacture of copper, brass, and other tubes and pipes.	13,054	23rd April 1850	William Henry Ritchie.
Machinery or apparatus to be used in manufacturing metal tubes.	13,130	12th June 1850	Thomas Deakin.
Manufacture of metal tubes for locomotive, marine, and other boilers - - - - - }	13,133	12th June 1850	{ George Allen Everitt. George Glydon.
Manufacture of metallic tubes - - - - -	13,438	2nd Jan. 1851	Benjamin Cook.
Hydraulic syphon - - - - -	13,528	24th Feb. 1851	Francis Clark Mouatis.
Manufacture of metallic tubes or pipes; machinery connected therewith.	13,534	26th Feb. 1851	Amedée François Rémond.
Manufacture of metallic tubes - - - - -	13,573	24th March 1851	Samuel Walker.
Manufacture of metallic tubes for steam-boilers and other uses.	13,656	7th June 1851	James Banister.
Manufacture of wrought-iron tubes - - - - -	13,734	4th Sept. 1851	Timothy Kenrick.
Manufacture of brass tubes - - - - -	13,752	25th Sept. 1851	Charles Green.
Manufacture of malleable metal into pipes, hollow shafts, railway wheels, or other analogous forms, which are capable of being dressed, turned down, or polished in a lathe.	13,848	8th Dec. 1851	Perry G. Gardiner.
Hydraulic syphon - - - - -	13,885	31st Dec. 1851	Francis Clark Mouatis.
Coating metals [iron pipes] - - - - -	13,971	13th Feb. 1852	{ Edmund Morewood. George Rogers.
Manufacture of cast metal pipes, tubes, or hollow castings.	13,998	8th March 1852	Edward Moseley Perkins.
Manufacture of metal tubes - - - - -	14,117	8th May 1852	George Frederick Muntz.
Manufacture of metal tubes and solid forms; machinery to be employed therein.	14,163	10th June 1852	William Beasley.
Manufacture or production of metallic pipes and sheets [by hydraulic machinery].	14,344	11th Nov. 1852	John Weems.
<b>IV.—Making Hose-pipes and Tubing.</b>			
Manufacture of leather hose and buckets - - -	9997	28th Dec. 1843	Robert Noyes Elven.
Machine for riveting leather hose, and for other purposes.	10,084	27th Feb. 1844	Thomas Harbottle.
Flexible tubes, hose, and other like vehicles and vessels.	10,825	4th Sept. 1845	Henry Bewley.
Forming leather into tubes, cylinders, and other articles - - - - - }	11,413	15th Oct. 1846	{ François Durand. Onésiphore Pecqueur.
Manufacture of articles where india-rubber or gutta-percha is used [manufacture of hose-pipe and tubing] - - - - - }	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Manufacture of hose-pipes - - - - -	12,585	26th April 1849	William Faulconbridge.
Manufacture of woven and twisted fabrics [hose or water-pipes, and such like articles].	12,680	29th June 1849	Thomas Beale Browne.
Hose or pipes - - - - -	12,828	2nd Nov. 1849	Michael John Haines.
Manufacturing pipes and other structures artificially in moulds, when using stone and other matters.	12,851	17th Nov. 1849	William Buckwell.
Suction and delivery pipes; connecting such pipes or hose.	12,922	11th Jan. 1850	Bennett Alfred Burton.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PIPES, TUBES, &amp;c.—continued.</b>			
<b>V.—Drain-tiles.</b>			
Engine to make and cast in clay all sort of earthen pipes for conveyance of water in the earth [ <i>drain-pipes</i> ].	11	12th Jan. 1619	John Etherington.
Making pipes with clay or earth for conveying water under ground from place to place, and which will be of singular use for the carrying of water from the tops of houses and buildings [ <i>and for draining land</i> ].	480	28th June 1725	William Edwards.
Composition for making fictile pipes for the conducting of water, and other fictile wares; method of making and burning the same, so that they shall be as hard and durable as stone.	843	25th March 1766	Thomas Lindslee.
Preparing and manufacturing pieces of pottery used for constructing chimneys, so as to render the said pieces capable of being better joined together and more advantageously used for conveying water and other fluids; machinery and apparatus used in making the same [ <i>for draining land</i> ].	3019	7th March 1807	Elizabeth Bell.
Making bricks and tiles [ <i>drain-tiles</i> ] - - -	3103	26th Jan. 1808	William Stewart.
Making pipes or pumps for conducting water and other liquids.	3127	30th April 1808	William Bell.
Machine, principle or method of making tubes gutters, channels, or cylinders, to convey water, smoke, steam, or any fluid or soft substance.	3319	22nd March 1810	Johann George Deyerlein.
Method of joining pipes [ <i>drain-pipes</i> ] - - -	3391	8th Oct. 1810	{ Charles Francis. William Waters.
Machinery for the delivery of bricks, tiles, ornaments, pottery ware, and other articles made in moulds, after the moulds are filled [ <i>drain-tiles</i> ].	3473	7th Aug. 1811	Thomas Gilbert.
Constructing and connecting earthen building materials [ <i>and making drain-tiles</i> ].	3649	20th Feb. 1813	Joseph Hamilton.
Improvements on or additions to machines for making bricks, tiles, and earthen wares [ <i>drain-tiles</i> ].	3685	28th April 1813	Joseph Hamilton.
Raising and conveying water, steam, gas, or any other fluid, by pipes of purified earth.	3803	18th April 1814	John Read.
Mode of making pipes and tubes of porcelain, clay, } or other ductile substances [ <i>for draining</i> ] - - }	4183	5th Dec. 1817	{ William Busk. Robert Harvey.
Manufacturing pipes for the conveyance of water, gas, and other fluids.	5232	8th Aug. 1825	Samuel Bagshaw.
Machinery, apparatus or implements to be used in the manufacture of bricks, tiles, and other articles to be formed or made of clay or other plastic materials;—part of which said machinery is also applicable to other useful purposes [ <i>for making drain-tiles</i> ].	5985	18th Aug. 1830	Samuel Roscoe Bakewell.
Machinery and process used in the manufacture of tiles, bricks, and other articles formed of plastic materials;—partly applicable to other purposes [ <i>used in making drain-tiles</i> ] - - - - -	6257	13th April 1832	{ John James Clark. John Nash.
Making or producing tiles for draining land and buildings, and for other purposes.	6426	25th May 1833	Robert Beart.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PIPES, TUBES, &amp;c.—continued</b>			
Machinery or apparatus for making bricks, tiles, and other articles made from earthy materials [ <i>drain-tiles</i> ].	7391	17th June 1837	Richard Roe.
Method of making tiles for draining soles; house-tiles, flat roofing tiles, and bricks.	7757	1st Aug. 1838	George, Marquess of Tweeddale.
new and improved mode of making or moulding tiles, bricks, retorts, and such like work, from clay and other plastic substances.	8965	22nd May 1841	John Ainslie.
Manufacture of bricks and tiles [ <i>drain-tiles</i> ] - -	9165	7th Dec. 1841	William Irving.
Draining land, embankments, and cutting of railways and other engineering works [ <i>and making drain-tiles</i> ].	9371	31st May 1842	Richard Watson, jun.
An improved tile [ <i>for draining</i> ] - - - -	9534	3rd Dec. 1842	John Sealy.
Mode of manufacturing bricks, tiles, quarries, and certain other articles made or composed of brick-earth; burning and firing the same and certain articles of pottery and earthenware [ <i>making tiles for draining</i> ].	10,020	20th Jan. 1844	William Bashford.
Manufacture of tiles, drain-pipes or tubes, and bricks.	10,132	30th March 1844	Henry Clayton.
Machinery for moulding or shaping clay and other plastic substances, for draining and other purposes	10,147	18th April 1844	John Bailey Denton.
Manufacture of tiles [ <i>for draining</i> ] - - -	10,200	23rd May 1844	Richard Wilson.
Manufacture of tubes for draining land and for other purposes; drain-tiles.	10,276	30th July 1844	William Ford.
Form of tiles for draining; implements for manufacturing thereof; mode of manufacture - - }	10,299	29th Aug. 1844	{ James Smith. William Gairdner Jolly.
Material or combination of materials suitable for piping, and most other purposes to which wood and iron are applicable [ <i>for draining</i> ].	10,327	26th Sept. 1844	Edwin Edward Cassell.
Apparatus and arrangements for the manufacture of tiles and similar articles from clay or other plastic matter [ <i>drain-tiles</i> ].	10,481	18th Jan. 1845	John Ainslie.
Manufacture of drain and other tiles and pipes -	10,577	27th March 1845	Richard Weller.
Manufacture of pipes for conveying water and other fluids [ <i>glass tubes suitable for draining</i> ].	10,634	22nd April 1845	Freeman Roe.
Machinery or apparatus for making, moulding, or manufacturing bricks, tiles, and other articles, from earthy or plastic materials [ <i>drain-tiles</i> ].	10,845	2nd Oct. 1845	Alfred Hall.
Machines for the manufacture of tiles and other plastic substances [ <i>for draining</i> ].	11,041	15th Jan. 1846	William Benson.
Manufacture of bricks, tiles, chimney-tops, and other similar articles [ <i>tiles for draining</i> ].	11,236	2nd June 1846	William Carter Stafford Percy.
Manufacture of tiles, pipes and other articles of plastic materials; preparation of plastic materials for the purpose [ <i>also making drain-pipes</i> ] - - }	11,282	6th July 1846	{ Frederick Ransome. John Crabb Blair Warren.
Manufacture of drain-tiles and tubes, and other articles, from plastic materials.	11,972	18th Nov. 1847	Thomas Martin.
Manufacture of pipes of earthenware, pottery, and glass; certain applications and arrangements thereof [ <i>for draining</i> ].	12,079	8th March 1848	Francis Whishaw.
Machinery or apparatus for manufacturing pipes or tubes from clay or other plastic materials [ <i>for draining</i> ].	12,115	10th April 1848	Thomas Spencer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PIPES, TUBES, &amp;c.—continued.</b>			
Machinery for the preparation of clays and other materials; manufacture of earthenware articles.	12,465	8th Feb. 1849	William Tooth.
Manufacture of earthenware tubes or pipes [ <i>for draining</i> ].	12,495	28th Feb. 1849	Charles Jacob.
Machinery or apparatus for manufacturing bricks and tiles from clay or other plastic materials [ <i>drain-tiles</i> ] - - - - -	12,601	3rd May 1849	{ Thomas Whaley. Richard Ashton Lightoller.
Manufacture of pipes, tiles, bricks, and other like articles, from plastic materials [ <i>drain pipes or tiles</i> ].	12,645	7th June 1849	Bennett Alfred Burton.
Cutting plastic tubes or tiles [ <i>drain-tiles</i> ] - -	12,677	27th June 1849	William Wilson, junior.
Manufacture of bricks, tiles, and pipes, and other articles, from plastic materials [ <i>making drain-tiles</i> ].	13,084	27th April 1850	William Gilbert Elliott.
Machinery for cutting wood for drain-pipes and other uses.	13,285	17th Oct. 1850	John Fowler, junior.
Certain arrangements and apparatus for the manufacture of bricks, tiles, and other articles made from clay and other plastic substances; part of said arrangements and apparatus being applicable to the treatment and preparation of earths, minerals, animal and vegetable matters [ <i>making drain-tiles</i> ].	13,376	30th Nov. 1850	John Ainslie.
Construction of roads and ways for the transit of passengers, materials, and goods, locomotive-engines and carriages;—partly applicable to other like purposes [ <i>application of hollow girders or rails perforated as drain-pipes</i> ].	13,353	3rd June 1851	William Bridges Adams.
Machinery for manufacturing bricks, tiles, quarries, drain-pipes, and such other articles as are or may be made of clay or other plastic substances [ <i>making drain-tiles</i> ].	13,769	9th Oct. 1851	Joseph Pimlott Oates.
Manufacture of pipes, chimney-pots, and hollow vessels; also bricks, tiles, copings, columns, and other articles used in building houses and other structures [ <i>making drain-pipes</i> ].	13,788	23rd Oct. 1851	Henry Adecock.
Manufacture of tubes, pipes, tiles, and other articles made from plastic materials.	13,864	19th Dec. 1851	Henry Clayton.
Machinery for manufacturing drain-pipes and other articles, of clay or other plastic substances.	14,054	6th April 1852	Joseph Pimlott Oates.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRESERVING AND CURING PROVISIONS AND OTHER SUBSTANCES AND LIQUIDS.</b>			
<b>I.—Meat, Fish, Fowl, Eggs, Potatoes, and other Provisions.</b>			
Keeping and preserving by liquors or otherwise, all sorts of flesh, fowl, and fish, and other things, for many years in all climates, without changing the nature, quality, taste, smell, or colour thereof	278	7th Oct. 1691	{ Thomas Porter. John White.
Composition for and method of curing salmon with spices.	793	29th July 1763	Alexander Cockburn.
Drying and preparing green and brown borecole, Scotch or other kale, so that it will retain for a year or a longer period its natural flavour as an excellent food, or its virtue as a preventative of scorbutic disorders.	1275	30th Dec. 1780	John Graefer.
Composition for preserving for the space of at least two years the eggs of hens, turkeys, geese and ducks.	1701	8th Feb. 1791	William Jayne.
Preserving animal and vegetable substances - -	1933	19th Feb. 1793	John Donaldson.
Curing and preserving herrings and sprats - -	2441	11th Sept. 1800	Benjamin Batley.
Curing and preserving herrings, sprats, and other fish.	3465	25th Jan. 1801	Benjamin Batley.
Preserving meat and other comestible substances, without acid, salt, or drying.	3061	13th June 1807	Francis Plowden.
Apparatus for preserving animal, vegetable, and other perishable food from decay.	3310	26th Feb. 1810	Augustus De Heine.
Preserving animal and vegetable food - - -	3372	25th Aug. 1810	Peter Durand.
Tubular metallic vessel, and the application thereof to the preservation of fluids and other things.	3585	16th July 1812	James Walker.
Preserving such animal and vegetable substances, separately or mixed, as are fit for the food of man, and for such a time as to render them fit for ship and garrison stores.	4150	5th Aug. 1817	Ludvig Granholm.
Combination of processes and manufactures for preserving animal and vegetable food.	4350	23rd March 1819	Aeneas Morrison.
Apparatus for preserving and packing hops - -	4480	20th June 1820	John Vallance.
Preserving potatoes and certain other substances [from germination].	5156	23rd April 1825	Thomas Alexander Roberts.
Processes, utensils, apparatus, machinery, and operations, applicable to the preparing, extracting, and preserving various articles of food, the component parts of which utensils, apparatus, and machinery are of different dimensions, proportionate to the different uses in which they are employed, and may be separately applied in preparing, extracting, and preserving food, and in other useful purposes.	5523	12th July 1827	Robert Vazie.
Preserving grain and other vegetable and animal substances and liquids.	5614	31st Jan. 1828	Donald Currie.
Preserving certain vegetable substances from decay -	6253	31st March 1832	John Howard Kyan.
Preserving animal and vegetable substances - -	6432	1st June 1833	Pierre Antoine Angilbert.
Applying anti-putrescent and flavouring substances to meat.	6711	13th Nov. 1834	Daniel Rutter Long.
Preserving certain vegetable substances from decay -	6933	19th Jan. 1836	Franz Moll.
Preserving certain vegetable substances from decay -	7001	11th Feb. 1836	John Howard Kyan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRESERVING, &amp;c.—continued.</b>			
Preserving animal and vegetable substances - - -	7036	21st March 1836	Louis Elizee Siegnette.
Extracting or obtaining ammoniacal salts from liquor produced in the manufacture of coal gas - }	7460	4th Nov. 1837	{ George Deakin Midgley. John Howard Kyan.
Preserving animal and vegetable substances from decay.	7511	19th Dec. 1837	Joshua John Lloyd Margary.
Preserving certain animal and vegetable substances from decay; apparatus for and mode of impregnating substances to be preserved.	7741	23rd July 1838	Richard Treffry.
Preserving certain vegetable substances from decay	7760	3rd Aug. 1838	Samuel Sanderson Hall.
Preserving animal and vegetable substances and liquors.	8378	8th Feb. 1840	John Wertheimer.
Preserving potatoes and other vegetable substances	8597	8th Aug. 1840	Downes Edwards.
Preserving vegetable, animal, and other substances from ignition and decay.	8601	11th Aug. 1840	Baron Charles Wetterstedt.
Salting animal matters [ <i>curing meat</i> ] - - -	8658	13th Oct. 1840	Charles Payne.
Treating potatoes for converting them into various articles of food; apparatus for drying, applicable to that and to other purposes.	8717	25th Nov. 1840	Charles Grellett.
Preserving animal and vegetable substances - - -	8776	6th Jan. 1841	Henry Gunter.
Preserving animal and vegetable substances and fluids.	8873	8th March 1841	Stephen Goldner.
Preserving animal and vegetable substances and liquids.	8874	8th March 1841	John Wertheimer.
Preserving animal and vegetable matter - - -	9240	27th Jan. 1842	{ Henry Benjamin. Henry Grafton.
Expelling air from cases or vessels used for the preservation of various articles of food.	9312	6th April 1842	John Bevan.
Purifying and preserving animal substances - - -	9435	3rd Aug. 1832	Samuel Carson.
Combining materials to be used for cementing purposes and for preventing the passage of fluids; forming or constructing articles from such compositions or materials [ <i>may be employed in preserving provisions, by coating the vessels containing them</i> ].	9487	8th Oct. 1842	Charles Edward Deutsche
Preparing lentils and other matters for food - - -	9677	24th March 1843	Alfred Hooper Nevill.
Vessels of a peculiar construction, and an apparatus for preserving articles of provisions for the use of families.	9970	5th Dec. 1843	James Cooper.
Improvements partly applicable to the desiccation of vegetable substances generally - - - - -	10,126	28th March 1844	{ Robert Davison. William Symington.
Substance for preventing decomposition in provisions; manufacturing the same and applying a certain gas or fume to certain perishable articles [ <i>a combination of the products arising from the distillation of wood, with the salt used for salting provisions</i> ].	10,322	19th Sept. 1844	Michael Fitch.
Preserving animal and vegetable matters - - -	10,496	28th Jan. 1845	William Trueman Yule.
Preserving animal and vegetable substances from decay.	10,596	7th April 1845	Giacomo Silvestri.
Apparatus for preservation of provisions - - -	10,781	21st July 1845	John Lings.
Treating eggs for the purposes of food - - -	10,922	4th Nov. 1845	Samuel Carson.
Preserving animal and vegetable substances - - -	11,120	5th March 1846	Robert Warrington.
Purifying vegetable and other substances from decay	11,240	12th June 1846	Robert Rettie.
Preserving vegetable matters - - - - -	11,265	29th June 1846	Charles Payne.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRESERVING, &amp;c.—continued.</b>			
Preserving fruit and vegetables - - - -	11,372	17th Sept. 1846	William Edward Newton.
Packing, gaining, and manufacture of products from fat or fatty matters [ <i>purifying and packing fat to be used for cooking food</i> ].	11,414	15th Oct. 1846	William Palmer.
Preservation of organic and other substances [ <i>preserving provisions</i> ].	11,420	17th Oct. 1846	John Ryan.
Preserving animal and vegetable substances - -	11,691	6th May 1847	John Horsley.
Preservation of perishable articles - - - -	11,715	24th May 1847	{ William Bridges Adams. Robert Richardson.
Application of heat to the preparation, desiccation, and preservation of bread-stuffs, confectionery, pulse, meats, vegetables, and other edible substances - - - - -	11,947	6th Nov. 1847	{ Robert Davison. William Symington.
Packing lard [ <i>in woven fabrics</i> ] - - - -	12,381	21st Dec. 1848	{ John Travis. John McLanes.
Means, apparatus, and appliances for preserving and preparing drinks and articles of food; preparing materials for constructing the same.	12,548	28th March 1849	John Britten.
Preserving vegetable matters - - - -	12,850	17th Nov. 1849	William Brindley.
Preparation of certain vegetable alimentary substances for provisioning ships and armies, and for other purposes where the said substances are required to be preserved.	13,338	12th Nov. 1850	Etienne Masson.
Preserving animal and vegetable substances - -	13,477	30th Jan. 1851	James Murdoch.
Drying animal and vegetable substances - -	13,680	3rd July 1851	Charles Payne.
Obtaining dyes; applicable to other purposes -	13,723	21st Aug. 1851	James Robertson.
Preserving animal and vegetable substances - -	13,732	4th Sept. 1851	Baron Charles Wetterstedt.
Preserving animal substances from decay by means of a composition applicable to the cure of certain diseases.	13,739	4th Sept. 1851	Peter Armand le Comte de Fontainemoreau.
Treating certain animal and vegetable substances to render them more convenient for use as articles of food and for their better preservation.	13,741	5th Sept. 1851	Gail Borden.
Preparing and treating certain kinds of cheese to render the same applicable to various culinary and other domestic purposes.	13,847	8th Dec. 1851	Isaac Alexander.
<b>II.—Milk.</b>			
Preparing animal milk so as to preserve its nutritive qualities any length of time.	6787	11th March 1835	William Newton.
Treating milk for purposes of nourishment - -	11,703	14th May 1847	Thomas Shipp Grimwade.
Preserving milk and increasing the quantity of cream procured therefrom.	11,726	29th May 1847	Francis Bernard Bekaert.
Preserving milk - - - - -	11,892	7th Oct. 1847.	Jules Jean Baptiste Martin De Lignac.
Method or process for preserving certain animal products [ <i>milk, by converting the same into cakes or solid masses soluble in warm water</i> ].	12,166	26th May 1848	Felix Hyacinthe Folliet Louis.
Preserving animal and vegetable substances from decay [ <i>milk</i> ].	12,250	21st Aug. 1848	John Bethell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRESERVING, &amp;c.—continued.</b>			
<b>III.—Animal and Vegetable Substances and Liquids.</b>			
Preserving animal and vegetable substances - - -	1033	19th Feb. 1793	John Donaldson.
Tubular metallic vessel, and the application thereof to the preservation of fluids and other things.	3585	16th July 1812	James Walker.
Composition for preserving animal and vegetable substances.	5078	11th Jan. 1825	Thomas Magrath.
Preserving certain vegetable substances from decay -	6253	31st March 1832	John Howard Kyan.
Preserving animal and vegetable substances - - -	6432	1st June 1833	Pierre Antoine Angilbert.
Preserving certain vegetable substances from decay -	6983	19th Jan. 1836	Franz Moll.
Preserving certain vegetable substances from decay -	7001	11th Feb. 1836	John Howard Kyan.
Preserving animal and vegetable substances - - -	7036	21st March 1836	Louis Elizee Siegnette.
Preserving animal and vegetable substances from decay.	7511	19th Dec. 1837	Joshua John Lloyd Margary.
Preserving certain animal and vegetable substances from decay; apparatus for and mode of impregnating substances to be preserved.	7741	23rd July 1838	Richard Treffry.
Preserving certain vegetable substances from decay -	7760	3rd Aug. 1838	Samuel Sanderson Hall.
Preserving animal and vegetable substances and liquids.	8117	20th June 1839	John Wertheimer.
Preserving animal and vegetable substances and liquids.	8378	8th Feb. 1840	John Wertheimer.
Preserving vegetable, animal, and other substances from ignition and decay.	8601	11th Aug. 1840	Baron Charles Wetterstedt.
Preserving animal and vegetable substances - - -	8776	6th Jan. 1841	Henry Gunter.
Preserving animal and vegetable substances and fluids.	8873	8th March 1841	Stephen Goldner.
Preserving animal and vegetable substances and liquids.	8874	8th March 1841	John Wertheimer.
Preserving animal and vegetable matter - - -	9240	27th Jan. 1842	{ Henry Benjamin. Henry Grafton.
Purifying and preserving animal substances - - -	9435	3rd Aug. 1842	Samuel Carson.
Improvements partly applicable to the desiccation of vegetable substances generally - - - }	10,126	28th March 1844	{ Robert Davison. William Symington.
Preserving animal and vegetable matters - - -	10,406	28th Jan. 1845	William Trueman Yule.
Preserving animal and vegetable substances from decay.	10,593	7th April 1845	Giacomo Silvestri.
Preserving animal and vegetable substances - - -	11,120	5th March 1846	Robert Warrington.
Purifying vegetable and other substances; machinery used for the same.	11,240	12th June 1846	Robert Rettie.
Preserving vegetable matters - - - -	11,265	29th June 1846	Charles Payne.
Preserving animal and vegetable substances - - -	11,691	6th May 1847	John Horsley.
Retarding the putrefaction of animal and vegetable substances; chemical agents employed in such processes.	11,898	7th Oct. 1847	Charles Frederick Eller- man.
Method or process for preserving certain animal products.	12,166	26th May 1848	Felix Hyacinthe Folliet Louis.
Preserving animal and vegetable substances from decay.	12,250	21st Aug. 1848	John Bethell.
Preserving vegetable matters - - - -	12,650	17th Nov. 1849	William Brindley.
Preserving animal and vegetable substances - - -	13,477	30th Jan. 1851	James Murdoch.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRESERVING, &amp;c.—continued.</b>			
Drying animal and vegetable substances - - -	13,680	3rd July 1851	Charles Payne.
Preserving animal and vegetable substances - - -	13,732	4th Sept. 1851	Baron Charles Wetterstedt.
Preserving animal substances from decay by means of a composition applicable to the cure of certain diseases.	13,739	4th Sept. 1851	Pierre Armand le Comte de Fontaineinoreau.
Treating, preparing, and preserving roots and plants; extracting saccharine and other juices from the same; treatment of such juices; processes, machinery, and apparatus employed therein.	14,143	29th May 1852	Adolphus Charles Von Herz.
[See also "TANNING and PRESERVING, &c."]			
[For Anatomical preparations, see "MEDICAL, &c., TREATMENT."]			
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<b>PRINTING.</b>			
<b>L.—Letterpress and other Printing.</b>			
Printing-presses with platens of metal as well as wood, suspended and counterbalanced by a weight - - - - -	999	6th Nov. 1771	{ Isaac Moore. William Pine.
Printing with types of figures connected so as to prevent possibility of error; of great utility where figures are used, particularly in taking down the numbers of the blanks and prizes in the lottery.	1201	9th Nov. 1778	Henry Johnson.
Printing books by plates instead of moveable types, } by which a greater degree of accuracy, correct- ness and elegance will be obtained - - - }	1431	23th April 1784	{ Andrew Foulis. Alexander Tilloch.
Printing vocal and instrumental music with types -	1435	19th May 1784	Samuel Arnold.
Machine for letterpress printing - - - - -	2027	9th Dec. 1794	Thomas Prosser.
Printing and using characters and figures for facilitating correspondence and other literary operations.	2797	19th Dec. 1804	Stephen Pasquier.
A certain machine whereby valuable improvements in the art of printing will be obtained [ <i>apparatus for typographical or plate printing</i> ].	2977	15th Oct. 1806	Joseph Bramah.
Construction of a press for printing books and other articles;—partly applicable to presses now in use.	3047	2nd June 1807	John Brown.
Machine or press for letterpress printing and for printing ornaments and figures, partly applicable to presses in common use.	3279	28th Nov. 1809	John Brown.
Printing and stamping presses - - - - -	3297	1st Feb. 1810	Augustus Frederick De Heine.
Printing by means of machinery [ <i>typographic cylinder-printing</i> ].	3321	29th March 1810	Frederick Koenig.
Printing by means of machinery [ <i>typographic cylinder-printing</i> ].	3496	30th Oct. 1811	Frederick Koenig.
Printing by means of machinery [ <i>typographic cylinder-printing</i> ].	3725	23rd July 1813	Frederick Koenig.
Press for printing from types, blocks, and other surfaces.	3740	1st Nov. 1813	John Ruthven.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING—continued.</b>			
Improvements or apparatus employed in printing, } whether from types, blocks, or plates - - - }	3757	23rd Nov. 1813	{ Richard Mackenzie Bacon. Bryan Donkin.
Printing by means of machinery [ <i>typographic cylinder-printing</i> ].	3868	24th Dec. 1814	Frederick Kœnig.
Printing-presses - - - - -	4174	1st Nov. 1817	George Clymer.
Improvements on and additions to printing-presses, also in the processes of printing.	4176	1st Nov. 1817	Thomas Carson Hansard.
Printing-presses, or machines used for printing -	4194	7th Jan. 1818	Edward Cowper.
Printing-presses for printing from types, plates, or } blocks - - - - - }	4202	17th Jan. 1818	{ Charles Brightley. Bryan Donkin.
Improvements in printing-machines, which improvements do not extend to the inking apparatus.	4375	24th May 1819	William Rutt.
Construction of printing-presses [ <i>worked by foot-lever</i> ].	4433	25th Jan. 1820	Daniel Treadwell.
Making stereotype plates - - - - -	4434	25th Jan. 1820	Marc Isambard Brunel.
Machines or presses chiefly applicable to printing [ <i>with a self-inking apparatus</i> ].	4164	18th May 1820	Richard Winch.
Printing presses - - - - -	4500	20th Oct. 1820	{ James Richard Gilmour. John Bold.
Printing in one, two, or more colours [ <i>bank-notes</i> ] -	4521	22nd Dec. 1820	Sir William Congreve.
Apparatus for printing [ <i>with self-acting inking apparatus</i> ].	4566	3rd July 1821	William Church.
Apparatus for printing [ <i>letterpress</i> ] - - -	4570	17th July 1821	{ Samuel Cooper. William Miller.
Spiral lever or rotary standard press [ <i>letterpress</i> ] -	4573	26th July 1821	David Barclay.
Printing [ <i>with an apparatus for feeding and distributing ink</i> ].	4619	24th Nov. 1821	Thomas Parkin.
Printing-machines [ <i>having an inking apparatus at each end</i> ].	4640	14th Jan. 1822	Augustus Applegath.
Multiplying facsimile impressions to any extent [ <i>producing stereotype plates by a rolling press</i> ].	4642	29th Jan. 18 22	Sir William Congreve.
Apparatus for printing - - - - -	4664	21st March 1822	William Church.
Printing - - - - -	4680	4th July 1822	John Bold.
Printing-machines - - - - -	4757	18th Feb. 1823	Augustus Applegath.
Apparatus for printing, to be used by type, block, or plate printers.	4760	18th Feb. 1823	William Church.
Construction of printing-presses [ <i>Stanhope principle</i> ].	4767	18th March 1823	William Hope.
Machines for printing [ <i>letterpress with two cylinders</i> ].	4802	19th Feb. 1824	Augustus Applegath.
Machinery for printing [ <i>letterpress, and inking form</i> ]	4803	19th Feb. 1824	William Church.
Machinery applicable to or employed for printing [ <i>letterpress</i> ].	4858	15th May 1824	Thomas Parkin.
Roller printing-presses [ <i>copper-plate</i> ] - - -	4882	27th July 1824	Edward Cartwright.
Apparatus used in manufacturing and preserving books, whether bound or unbound [ <i>a peculiar sort of portfolio, also a typographic printing-press</i> ].	5277	1st Nov. 1825	John Isaac Hawkins.
Printing [ <i>letterpress</i> ] - - - - -	5417	18th Oct. 1826	William Church.
Printing music [ <i>by blocks and types</i> ] - - -	5484	5th April 1827	Edward Cowper.
Typographic printing between plain or flat surfaces.	5550	6th Sept. 1827	George Clymer.
Machinery applicable to letterpress printing - -	5713	2nd Oct. 1828	David Napier.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING—continued.</b>			
Printing machinery [ <i>typographic</i> ] - - - -	5776	19th March 1829	James Wills Wayte.
Printing-machines - - - - -	5955	19th July 1830	{ Edward Cowper. Ebenezer Cowper.
Printing-machines - - - - -	5888	31st Aug. 1830	Augustus Applegath.
Printing and pressing machinery; economising the power applied to the same;—also applicable to other purposes.	6010	13th Oct. 1830	David Napier.
Apparatus for impressing, stamping, or printing, for certain purposes.	6065	22nd Jan. 1831	Charles Mephram Han- nington.
Printing-machines - - - - -	6067	29th Jan. 1831	Robert Winch.
Construction of printing-presses - - - -	6246	22nd March 1832	William Day.
Letterpress printing; machinery or apparatus for the same.	6450	18th July 1833	Augustus Applegath.
Printing-presses - - - - -	6454	25th July 1833	John Kitchen.
Printing in colours - - - - -	6515	23rd Nov. 1833	Henry Hardingham Leg- gett.
Printing-presses, and presses for other purposes -	6632	25th Sept. 1834	Joseph Saxton.
Letterpress printing by machinery - - - -	6762	12th Feb. 1835	Rowland Hill.
Machine for letterpress printing - - - -	6763	12th Feb. 1835	Edwin Norris.
Printing-machines - - - - -	6793	18th March 1835	Andrew Smith.
Tools, implements or apparatus used in or subser- vient to letterpress printing.	6800	25th March 1835	William Houstoun.
Construction of printing machinery or presses -	6809	9th April 1835	Miles Berry.
Letterpress printing - - - - -	7343	18th April 1837	David Napier.
Printing - - - - -	7499	5th Dec. 1837	Moses Poole.
Printing - - - - -	7918	20th Dec. 1838	{ Carl Augustus Holm. John Barrett.
Casting for printing purposes - - - -	8159	20th July 1839	Moses Poole.
Printing-presses - - - - -	8266	9th Nov. 1839	Thomas Edmondson.
Printing - - - - -	8316	16th Dec. 1839	David Morison.
Printing-presses [ <i>printing tickets consecutively</i> ] -	8538	9th June 1840	Thomas Edmondson.
Printing - - - - -	8809	23rd Jan. 1841	Isham Baggs.
Machinery for letterpress printing - - - -	8984	12th June 1841	James Wills Wayte.
Printing music, maps, and portraits - - - -	8987	12th June 1841	Edward Palmer.
Machinery used for printing with type - - - -	9308	23rd March 1842	Moses Sperry Beach.
Typographical printing; combining the advantages of moveable types with the stereotype process, by substituting for distribution a special font for each new work, by means of a pneumatic machine for casting and a uniplane machine for composing.	9731	16th May 1843	Joseph Mazzini.
Presses for letterpress printing - - - - -	9976	8th Dec. 1843	John Reed Hill.
Stereotyping - - - - -	10,275	29th July 1844	Joseph Martin Kronheim.
Presses for letterpress printing - - - - -	10,284	2nd Aug. 1844	John Reed Hill.
Machinery for letterpress printing - - - -	10,338	3rd Oct. 1844	William Newton.
Machinery for letterpress or surface printing - -	10,488	21st Jan. 1845	William Schnebly.
Machine for paging books and numbering docu- ments consecutively or otherwise; printing words, dates, marks, numbers, or impressions.	10,543	3rd March 1845	William Shaw.
Printing [ <i>tympans of letterpress printing-machinery</i> ]	10,677	22nd May 1845	James Heath Lewis.
Printing - - - - -	11,202	12th May 1846	Robert William Sievier.
Machinery for printing - - - - -	11,203	12th May 1846	William Little.
Apparatus for and process of printing - - - -	11,451	17th Nov. 1846	Bartholomew Beniowski.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING—continued.</b>			
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of forms and impressions to print from type</i> ] - - - - -	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Machinery for letterpress printing - - - - -	11,688	4th May 1847	William Newton.
Printing presses - - - - -	11,805	19th July 1847	John James Chidley.
Apparatus for and process of printing - - - - -	11,905	14th Oct. 1847	Bartholomew Beniowski.
Machinery for letterpress printing - - - - -	12,210	18th July 1848	William Edward Newton.
Printing - - - - -	12,382	21st Dec. 1848	Charles Augustus Holm.
Producing pressure for various purposes [ <i>taking impressions from type</i> ].	12,569	16th April 1849	John Ruthven.
Apparatus for and process of printing - - - - -	12,589	26th April 1849	Bartholomew Beniowski.
Apparatus for printing - - - - -	12,653	7th June 1849	Henry Knight.
Process of printing; machinery employed therein - - - - -	12,715	24th July 1849	Alexander Ferrier Rose.
Machinery for letterpress printing - - - - -	12,741	16th Aug. 1849	Frederick William Bodmer.
Machinery for printing - - - - -	12,800	12th Oct. 1849	Jules Le Bastier.
Stereotype plates and other figured surfaces for printing from.	12,995	7th March 1850	Richard Archibald Broo- man.
Machinery, apparatus, metallic and other substances, for the purposes of letterpress and other printing.	12,998	7th March 1850	Gerard John De Witte.
Printing apparatus - - - - -	13,326	7th Nov. 1850	Robert Lucas.
Printing-machinery - - - - -	13,327	8th Nov. 1850	Thomas Main.
Printing, and manufacture of printing apparatus - - - - -	13,453	16th Jan. 1851	Gustav Adolph Buchholz.
Printing-presses - - - - -	13,511	12th Feb. 1851	Edwin Ullmer.
Printing or marking letters, characters or figures, upon paper, parchment, &c., prepared for the purpose.	13,688	7th July 1851	Henry Craven Baildon.
Machinery used for printing - - - - -	13,879	24th Dec. 1851	Augustus Applegath.
Typographic and other printing-presses - - - - -	13,916	24th Jan. 1852	Peter Armand le Comte de Fontainemoreau.
[See also "ENGRAVING."]			
[For Electric Printing, see "TELEGRAPHS."]			
<b>II.—Composing, inking, and distributing Type.</b>			
Method of making or constructing beds, pillows, hammocks, cushions, and various other articles of that kind in a different manner, and of different materials from any hitherto used [ <i>making printing balls or rollers with a solution of india-rubber</i> ].	3718	14th July 1813	John Clark.
Inking printing-types with rollers; placing and conveying paper on types; inking with a cylinder.	4463	15th May 1820	Richard Watts.
Apparatus for printing [ <i>composing by mechanism acted on like a pianoforte</i> ].	4864	21st March 1822	William Church.
Apparatus for printing to be used by type, block, or plate printers [ <i>composing types into words and sentences</i> ].	4760	18th Feb. 1823	William Church.
Inking apparatus to be used with certain descriptions of printing-presses.	6118	24th May 1831	Richard Wood.
Machinery or apparatus for distributing types, or other typographical characters, into proper receptacles, and placing them in order for setting up, after being used in printing.	8427	13th March 1840	Etienne Robert Gaubert.
Setting up printing-types - - - - -	8428	13th March 1840	{ James Hadden Young. Adrien Delcambre.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING—continued.</b>			
Arranging and setting up types for printing - -	8728	27th Nov. 1840	{ John Clay. Frederick Rosenberg.
Apparatus for and means of cleansing forms of type after being used in printing.	9078	8th Sept. 1841	Miles Berry.
Arranging and setting up types for printing - -	9300	21st March 1842	{ John Clay. Frederick Rosenberg.
Inking type - - - - -	11,493	15th Dec. 1846	Mark Bingley.
Jacquard machinery for figuring fabrics and tissues generally, and apparatus for transmission of designs to said jacquard machinery;—parts of which are applicable to playing musical instruments, composing printing types, and other like purposes [ <i>application to type-composing machinery, of an endless band, and of paper, gutta-percha, or other suitable material, with punctured holes</i> ].	12,229	5th Aug. 1848	Duncan Mackenzie.
Machinery for figuring textile fabrics;—partly applicable to playing certain musical instruments, and also to printing and other like purposes [ <i>combination of pegs sliding in a cylinder, for actuating the levers of type-composing instruments</i> ].	12,421	16th Jan. 1849	William Martin.
<b>III.—Copperplate, Lithographic, and similar Printing;—Surfaces for Printing.</b>			
Making, describing, carving, and graving in copper, brass, or other metal, all such and so many maps, plots, or descriptions of London, Westminster, Bristol, Norwich, Canterbury, Bath, Oxford, and Cambridge, and to print, set forth, and sell the same - - - - -	1	2nd March 1617	{ Aaron Rapburne. Roger Burges.
Printing likenesses - - - - -	2	1st May 1617	Nicholas Hillyard.
Multiplying pictures and draughts by natural colours with impression.	423	5th Feb. 1719	James Christopher Le Blon.
Making and printing globular charts or sea charts, } for use in navigation - - - - -	432	7th July 1721	{ John Harris. John Senex. Henry Wilson.
Copper-plate printing-press - - - - -	2663	28th Feb. 1803	Robert Kirkwood.
Printing maps of counties, also charts or designs, music, and mathematical diagrams or figures, on wood, metal, or other substance, to be thrown off in a common printing-press, either for books, newspapers, or other printed papers.	3307	26th Feb. 1810	Peter Stuart.
Construction and use of plates and presses, and combining various species of work for copper-plate printing; designed to detect counterfeits, for multiplying impressions, and saving labour.	3385	1st Oct. 1810	Joseph Cheeseborough Dyer.
Construction of plates for printing bank or bankers' notes, or other printed impressions where difficulty of imitation is a desideratum.	4249	23rd April 1818	Augustus Applegath.
Construction and method of using plates and presses for bank-notes and other papers, whereby the producing and combining various species of work is effected upon the same plates and surfaces, the difficulty of imitation increased, and the process of printing facilitated.	4400	11th Oct. 1819	Jacob Perkins.
Inlaying or combining different metals or other hard substances [ <i>compound plates for printing the backs of bank-notes in two colours, to prevent forgery</i> ].	4404	1st Nov. 1819	Sir William Congreve.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING—continued.</b>			
Substitutes for certain materials used in printing from stereotype plates [ <i>use of cork for matrix plates</i> ].	4594	18th Oct. 1821	James Fergusson.
Preventing fraudulent practices on bankers' cheques, bills of exchange, and other commercial correspondence [ <i>by printing in vegetable colours which will change by chemical action</i> ].	4731	10th Dec. 1822	William Robson.
Copper and other plate printing - - - -	5463	14th Feb. 1827	John George Christ.
Machinery or apparatus applicable to lithographic and other printing.	6131	6th July 1831	Adolphe Jacquesson.
Producing coloured steel-plate, copper-plate, and other impressions.	6916	23rd Oct. 1835	George Baxter.
Forming plates with raised surfaces thereon for printing impressions on different substances [ <i>for printing cloth</i> ].	7389	12th June 1837	Godfrey Woone.
Surface or tablet for the purposes of receiving writings, engravings, drawings, or impressions, or other devices capable of being printed.	7786	30th Aug. 1838	William Dolier.
Producing prints and impressions from steel, copper, and other plates.	8078	25th May 1839	Henry Griffiths.
Material to be used in printing [ <i>stone</i> ] - - -	8279	21st Nov. 1839	Pierre Auguste Ducote.
Improvements applicable to lithography - -	8434	17th March 1840	Isham Baggs.
Preparing surfaces of paper [ <i>by laying on a coating of oil-paint, and subsequently printing, for paper-hangings</i> ].	8458	30th March 1840	Henry Martin.
Obtaining impressions from a prepared stone, produced on paper to imitate a drawing; preparing a stone for the same.	8683	5th Nov. 1840	Charles Joseph Hull-mandel.
Producing surfaces to be used for printing [ <i>by means of voltaic electricity</i> ].	8743	17th Dec. 1840	William Tudor Mabley.
Producing printing-surfaces, and printing music, maps, and portraits [ <i>by electricity</i> ].	8987	12th June 1841	Edward Palmer.
Producing printing-surfaces - - - -	9227	15th Jan. 1842	Edward Palmer.
Lithographic and other printing-presses - -	9327	21st April 1842	Alphonse De Troisbrioux.
Lithographic and other printing presses - -	10,018	16th Jan. 1844	William Nichol.
Lithographic and autographic presses - - -	10,129	28th March 1844	Charles Hector François Dumontier.
Construction of lithographic and autographic presses	10,554	13th March 1845	Moses Poole.
Printing and preparing bankers' notes, cheques, and other papers, for prevention of fraud.	10,633	22nd April 1845	Thomas Moss.
Machinery to be employed for lithographic printing	10,924	4th Nov. 1845	George Scholefield.
Lithographic printing-press - - - -	11,497	21st Dec. 1846	Walter Smart, junior.
Manufacture of plates or surfaces for printing -	12,022	13th Jan. 1848	Sydney Edwards Morse.
Machinery for printing and ornamenting surfaces -	12,248	21st Aug. 1848	Isaac Taylor.
Producing ornamental designs - - - -	12,366	11th Dec. 1848	George Laurence Lee.
Producing coloured steel-plate, copper-plate, and other impressions ( <i>prolongation of Patent No. 6916 for 5 years, from 23rd Oct. 1849.</i> )	12,753	30th Aug. 1849	George Baxter.
Means and apparatus for obtaining copies of writings, drawings, and other designs [ <i>lithographic process</i> ].	12,913	3rd Jan. 1850	Albert Crakell Waterlow.
Lithographic printing-presses - - - -	13,916	24th Jan. 1852	Pierre Armand le Comte de Fontainemoreau.
Manufacture of printing-surfaces - - - -	14,113	1st May 1852	Alfred Vincent Newton.
Production of figured surfaces; printing and machinery used therein [ <i>lithographic presses</i> ].	14,180	24th June 1852	Joseph Swan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING—continued.</b>			
<b>IV.—Yarns and Warps.</b>			
Engine for stamping thread - - - - -	453	6th Feb. 1723	Samuel Taylor.
Printing on silk, woollen, and cotton yarn - -	3936	29th June 1815	Samuel John Smith.
Printing colours so as to make the same permanent or fast on mohair, worsted, woollen, straw, chip, and leghorn.	4496	9th Oct. 1820	Robert Frith.
Machines and apparatus for printing wool or other substances.	4601	10th June 1823	Edward Cowper.
Manufacture of stuffs with transparent and coloured figures; "Diaphane stuffs" [ <i>printing patterns on warps previously arranged on beams and held together by a few threads of coarse weft, which warps are to be subsequently woven in a jacquard loom</i> ].	5042	25th Nov. 1824	Stephen Wilson.
Processes and apparatus for printing and preparing for manufacture, yarns of linen, cotton, silk, woollen, or any other fibrous materials.	5480	31st March 1827	Bennet Woodcroft.
Processes and apparatus for preparing and printing yarns, of cotton, linen, silk, woollen, and other fibrous substances, so that figures printed on them may be preserved when woven into cloth or other fabric.	6066	22nd Jan. 1831	Louis Schwabe.
Manufacture to facilitate the production of regular figures or patterns on different fabrics, particularly velvet, velvet pile, and Brussels, Wilton, and Turkey carpets [ <i>printing yarns for making carpets</i> ].	6307	8th Sept. 1832	Richard Whytock.
Imparting to woven fabrics or to the yarns or threads of which the same are intended to be composed, the colour necessary to form the required pattern thereon.	6356	5th Jan. 1833	William Gratrix.
Mode of producing parti-colours on yarns or threads of worsted, cotton, silk, and other fibrous substances [ <i>improvements on patent 6307</i> ] - - -	7986	1st March 1839	{ Richard Whytock. George Clink.
Processes to be used in the printing of cotton, woollen, silk, or other yarns - - - - -	8183	1st Aug. 1839	{ John Mercer. John Dyneley Prince, jun. William Blythe.
Making, manufacturing, or producing carpets and hearth-rugs [ <i>printing yarns for carpet-weaving, previously to the same being formed into warps</i> ].	8911	26th Jan. 1841	Edward Henshall.
Printing warps - - - - -	11,643	29th March 1847	Alexander Morton.
Production of coloured patterns or designs on warps of carpets, velvets, or other textile materials.	12,130	20th April 1848	Matthew Cochran.
Marking skeins of silk - - - - -	12,178	8th June 1848	Joseph Foot.
Manufacturing Brussels tapestry, Turkey and velvet or cut-pile carpets and rugs, by which method less warp is required and perfect and regular figures or patterns are produced [ <i>printing weft to be used in weaving silk fabrics</i> ].	12,388	21st Dec. 1848	William Curtain.
Improvements applicable to operations in printing warps - - - - -	12,565	16th April 1849	{ Thomas Cocksey. James Nightingale.
Printing fibrous and other materials - - - -	12,561	21st April 1849	Charles Alexander Broquette.
Ageing yarns when printed - - - - -	12,610	15th May 1849	John Thom.
Printing on cotton, woollen, silk, or other materials -	12,658	14th June 1849	Joseph Burch.
Mode of treating certain floated warp or weft, or both, for producing ornamental fabrics [ <i>printing on floated warp or weft</i> ].	13,005	18th March 1850	Robert Milligan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING—continued.</b>			
Printing yarns for carpets and other fabrics - - -	13,267	28th Sept. 1850	{ Joseph Crossley. George Collier. James Hudson.
Printing yarns - - - - -	13,402	12th Dec. 1850	{ Joseph Crossley. George Collier. James Hudson.
Printing carpets and other fabrics [and printing yarns].	13,445	11th Jan. 1851	William Melville.
Weaving or producing fabrics when coloured or parti-coloured yarns or threads are employed [and printing such parti-coloured yarns].	13,834	27th Nov. 1851	Richard Whytock.
Ornamenting carpets, rugs, and other fabrics [printing or dyeing patterns on warps; also clearing such goods of the thickening used with the colours].	13,841	4th Dec. 1851	William Wood.
Printing and ornamenting cut-pile and other fabrics and yarns.	13,866	19th Dec. 1851	Joseph Burch.
Printing yarns - - - - -	14,078	20th April 1852	Robert Reyburn.
<b>V.—Woven Fabrics (including Block and Cylinder Printing).</b>			
Printing on linen cloth - - - - -	15	25th Oct. 1619	{ George Wood. James Jenkinson.
Tingeing silks, cottons, cotton and stuffs, by way of impression and otherwise, in figures and landscapes, for furniture hangings or similar articles.	179	20th April 1675	Thomas Togood.
Printing broad calico and scotch cloth, with a double-necked rolling-press.	190	15th Aug. 1676	William Sherwin.
Making a new sort of glazed printed hangings, made of cotton, worsted, or woollen yarn, of all sorts of curious figures and landscapes, which for beauty of colours, exactness of figures, strength, and gloss, is hard to be distinguished from the finest silk tapestry hangings brought from foreign parts.	296	22nd April 1692	William Bayley.
Producing colours in woollen or silk cloths, in figures, flowers, forests, and landscapes.	343	2nd Aug. 1695	Ralph Lane.
Printing calicoes in grain - - - - -	400	19th Nov. 1715	Peter Dubison.
Printing goods made of wool, mohair, worsted, and silk, or mohair and silk, or mohair alone.	586	7th Aug. 1742	Daniel Chappell.
Machine for printing or painting history, landscapes, fruits, flowers, and other descriptions, according to the various drawings or designs which may be required to be imitated, upon silks, cottons, linens, stuffs, or woollen cloths and other manufactures, for wearing-apparel, furniture, or otherwise - - - - -	589	10th March 1743	{ Moses Platt. William Keen.
Printing flannels and other woollens - - - - -	659	22nd Jan. 1751	John Elliott.
Printing or staining calimancoes and other woollen goods.	692	3rd July 1754	George Bowser.
Machine for printing, staining and colouring silks, stuffs, linens, and cottons - - - - -	810	10th April 1764	{ Thomas Fryer. Thomas Greenough. John Newbery.
Printing images, songs, maps, landscapes, and sea-pieces, on linen for handkerchiefs, by means of copper plates.	847	10th June 1766	John Peele.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING, &amp;c.—continued.</b>			
Machine for blotching, printing, and variegating, by means of copper plates, different colours on calicoes, cottons, lawns, and all other whitstereed linens, for furniture, garments, and handkerchiefs.	869	25th Feb. 1767	Thomas Long.
Machine for printing and stamping silk, woollen, cotton, and linen cloths, and other articles made of the same - - - - -	1007	14th March 1772	{ Joseph Adkin, senior. Joseph Adkin, junior. Charles Taylor. Thomas Walker, junior.
Printing colours complete and fixed in the first impression, on silks and satins, linen, woollen, and cotton mixed with silk, and upon linens, cottons, and calicoes; also all kinds of woollen goods, silk and cotton velvets, and cotton velverets, without the process of boiling and bleaching.	1045	24th June 1773	Thomas Preston.
Printing silks, cottons, muslins, and calicoes in designs	1066	28th Feb. 1774	Anthony George Eckhardt.
Working an aquarello ground on copper plates, for printing cottons, calicoes, muslins, and linens, which aquarello ground produces various tints, and will be very beneficial to the printing trade.	1137	19th Nov. 1776	Henry Hawkins.
Printing, staining, or colouring the whole or part of the surface of plain, striped, or flowered silk or cotton velvet long or short piled shag or plush.	1175	31st Dec. 1777	Stephen Dolignon.
Stamping silks, tiffany, and gauze - - - - -	1221	29th April 1779	Michael Biaggini.
Printing woollen cloths, woollen stuffs, and woollen mixtures, in water colours - - - - -	1245	23rd Feb. 1780	{ Roger Worthington. James Ramsbotham.
Printing linens, cottons, calicoes, stuffs, woollen cloths, silks, silk and stuff gauzes, muslins, or any other species or kind of cloth or manufactured goods whatsoever, by wooden or metal blocks and metal plates.	1356	12th Feb. 1783	John Smith.
Printing with one or various colours at one time, on linens, lawns, and cambric, cottons, calicoes, and muslins, woollen cloth, silk, silk and stuff gauzes, and any other species or kind of cloth or manufactured goods.	1375	17th July 1783	Thomas Bell.
Machine for printing one, two, three, or more colours, on cottons, calicoes, muslins, linens, silks, stuffs, dimities, jeans, velverets, woollen cloths, or any other species or kind of manufactured goods whatever.	1433	29th April 1784	John Slater.
Printing five colours more or less at one and the same time, upon linens, cottons, calicoes, muslins, woollen cloths, silks, stuffs, or any other species of goods or articles capable of being printed.	1443	9th July 1784	Thomas Bell.
Machine for printing calicoes, cottons, and linens in general, by means of which any number of colours may be printed thereon at one and the same time, and whereby ten times as many pieces may be printed in as short a space of time as one piece is now printed by the common method.	1540	18th March 1786	Jacob Bunnett.
Machine or instrument for the purpose of printing on linen, cotton, woollen, and other articles.	1748	29th April 1790	William Nicholson.
Machine for staining or printing silk handkerchiefs, cottons, calicoes, muslins, and other articles capable of being printed or stained.	1921	28th Nov. 1792	James Bayley.
Machine for stamping and striping woollen cloths, kerseymers, silk velvets, cotton velvets, velveteens, velverets, and thicksets.	1941	25th March 1793	Rowland Jones.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING, &amp;c.—continued.</b>			
Preparing linen and cotton cloth with a paste to give it a smooth surface and pliable quality, for receiving a coat of water-size colours, and afterwards printing ornaments on the same in silver and gold, or colours in patterns to resemble damask, lace, and other silk stuffs, for hangings and other furniture for rooms.	1954	30th April 1793	Francis Frederick Eckhardt.
Machine for printing and staining calicoes and other goods.	2084	4th Feb. 1796	William Paul.
Making and manufacturing from iron or steel, or both united, doctors for printing - - - }	2134	25th Aug. 1796	{ Arnold Wylde. Joseph Ridge.
Printing or staining linens, calicoes, or other cloths	2311	30th April 1799	William Gillispie.
Printing and colouring transparencies on silk, cotton, linen, and other woven goods, for carriage and window blinds, screens, and other ornamental purposes.	2385	31st March 1800	Charles Random Berenger.
Lead saccharum for calico printers, and other useful purposes.	2400	10th May 1800	John Whitton.
Machine or instrument to print certain sprigs or spots on calico, cotton stuffs, linen, silks, satin, cloth, or woollen baize; "Double copper cylinder and copper plate."	2459	17th Dec. 1800	James Duxbury.
Printing linen, cotton, woollen, and other articles -	2518	20th June 1801	John Aloysius Senefelder.
Press for printing calicoes and various other articles	2872	29th July 1805	Henry Maudslay.
Printing fancy patterns on silk and cotton lace-net, to supersede tambouring or working them in colours.	2880	27th Sept. 1805	John Nyren.
A certain machine, whereby available improvements in the art of printing will be obtained [ <i>printing piece-goods by means of separate wheels or rings with fancy devices engraved thereon, the wheels being fitted on to a roller</i> ].	2977	15th Oct. 1806	Joseph Bramah.
Machines for printing calicoes and other articles -	3117	14th March 1808	Henry Maudslay.
Preparing rollers and blocks for calico printing -	3322	6th April 1810	Jonathan Ridgway.
Making copper rollers for printing - - -	3491	23rd Sept. 1811	William Fothergill.
Machine for printing calicoes - - -	3639	15th Jan. 1813	Matthew Bush.
Machine for printing silk, linen, woollen, cotton, and various other articles.	3777	8th Feb. 1814	Timothy Harris.
Printing linen cloth - - - - -	3879	4th Feb. 1815	John Wood.
Process of printing cloth made of cotton or linen, or both.	3881	4th Feb. 1815	James Thomson.
Roller for printing cloth made of cotton or linen -	3902	4th April 1815	Jonathan Ridgway.
Printing cotton, or goods manufactured of cotton -	3936	29th June 1815	Samuel John Smith.
Preparing, making, and finishing metal and composition blocks, plates, and rollers, also types and dies, by which patterns, devices, and compositions can be imprinted and impressed upon cotton, linen, silk, worsted, mohair, and woollen cloths, or on any fabric made of a mixture of any two or more of them.	4064	30th Sept. 1816	Robert Clayton.
Processes applicable to the printing of cotton and other cloths, and to other purposes.	4252	4th May 1818	Joshua Rowe.
Manufacture of copper and other metallic cylinders or rollers for calico-printing.	4280	22nd July 1818	Richard Ormrod.
Manufacturing copper or other metal rollers for calico-printing.	4287	7th Aug. 1818	George Hollingrake.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING, &amp;c.—continued.</b>			
Machine for printing silks, linens, calicoes, woollens and other similar fabrics, whereby one or more colours may be printed on the same, and on fabrics of a like nature [ <i>by blocks combined with copper plates</i> ].	4489	20th July 1820	Matthew Bush.
Printing colours so as to fix the same permanent and fast, on cottons, linens, silks, mohair, worsted, and woollens	4498	9th Oct. 1820	Robert Frith.
Engraving and etching metal rollers used for printing woollen, cotton, linen, paper, cloth, silk, and other substances.	4525	9th Jan. 1821	John Leigh Bradbury.
Apparatus for printing, to be used by type, block, or plate printers [ <i>printing cloths by combining types, blocks, or plates in a cylindrical form</i> ].	4780	18th Feb. 1823	William Church.
Making cylinders for printing cottons, calicoes, and other articles.	4798	3rd June 1823	Thomas Attwood.
Machinery or apparatus for printing calico, linen, silk, wool, or other substances capable of receiving printed impressions.	4801	10th June 1823	Edward Cowper.
Printing or staining silks, cottons, woollens, and other cloths, by means of blocks or surface-printing.	4813	15th July 1823	John Leigh Bradbury.
Machinery for printing on calico or other woven fabrics composed wholly or in part of cotton, linen, wool, or silk.	4816	15th July 1823	William Palmer.
Machinery for printing calicoes and other fabrics [ <i>by repeating rollers</i> ].	5011	7th Oct. 1824	Matthew Bush.
Producing or manufacturing a neb or slot in the roller, shell or cylinder made of copper or metal, and used in printing calico, muslin, cotton, or linen cloths.	5082	14th Jan. 1825	Joseph Lockett.
Making nebs or slots in copper or other metal cylinders used for printing cottons, linen, silk, stuffs, and other articles.	5110	26th Feb. 1825	Thomas Attwood.
Calico-printing by the use and application of certain vegetable materials [ <i>colouring matter from the husks and stalk of the cocoa-nut tree</i> ].	5139	29th March 1825	James Hamner Baker.
Printing or dyeing woollen and other fabrics	5225	26th July 1825	{ David Oliver Richardson. William Hirst.
Process or machinery for printing cotton or other fabrics.	5311	14th Dec. 1825	Matthew Ferris.
Machinery or apparatus for printing calico and other fabrics [ <i>in several colours</i> ].	5479	27th March 1827	Matthew Bush.
Block-printing [ <i>printing shawls or square handkerchiefs</i> ].	5613	26th Jan. 1828	Augustus Applegath.
Making rollers or cylinders of copper and other metal or mixture of metals, for printing calicoes, cloths, silks, and other articles.	5782	23rd April 1829	Benjamin Cook.
Machinery for printing calicoes and other fabrics	5938	24th May 1830	Matthew Bush.
Making a neb or slot in shells or hollow cylinders of copper, brass or other metals, for printing calicoes, muslins, cloths, silks, and other articles.	6024	1st Nov. 1830	Benjamin Cook.
Machinery or apparatus for printing calicoes and other fabrics.	6042	6th Dec. 1830	Robert Dalglish, junior.
Printing silk, cotton, and other goods or fabrics	6194	3rd Dec. 1831	Cornelius March Payne.
Imparting to various woven fabrics, or yarns of which they are to be composed, the colour necessary to form the required patterns thereon.	6356	5th Jan. 1833	William Gratrix.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING, &amp;c.—continued.</b>			
Block-printing; machinery for the same - -	6450	18th July 1833	Augustus Applegath.
Block-printing as applied to calico and some other fabrics.	6496	28th Oct. 1833	Charles Joseph Hullmandel.
Engraving and etching on cylindrical surfaces for printing and other purposes.	6587	31st March 1834	Hooton Deverill.
Machinery for printing calicoes and other fabrics -	6626	14th June 1834	Matthew Bush.
Machinery and apparatus applicable in block printing, on silk, woollen, cotton, and other fabrics.	6728	4th Dec. 1834	James Hudson.
Printing silk, cotton, calico, or other fabrics; manufacture of blocks, cylinders, or rollers used for such purposes.	6754	27th Jan. 1835	John Budd.
Construction of cylinder-printing machines for printing calico and other fabrics.	6834	13th May 1835	John Buchanan.
Surface or pattern roll of machines used in printing calico and other goods, commonly called surface-printing machines; mode of working the said rolls.	6842	30th May 1835	John Losh.
Printing calicoes and other fabrics, whether manufactured of cotton, silk, wool, or linen, or of all or any two or three of those materials.	6848	4th June 1835	Bennet Woodcroft.
Embossing and printing at the same time by means of a cylinder and roller, on fabrics made of cotton, silk, flax, hemp, and wool, or any one or more of those materials.	6927	10th Nov. 1835	Thomas Greig.
Printing silks, calicoes, and other fabrics - -	6983	24th Nov. 1835	Charles Pearse Chapman.
Printing calicoes and other fabrics, whether manufactured of cotton, silk, wool, or linen, or of all or any two or three of those materials.	6939	3rd Dec. 1835	Bennet Woodcroft.
Machinery for printing silk and cotton net or lace -	6987	23rd Jan. 1836	William Burch.
Block-printing - - - - -	7063	19th April 1836	John Parkinson.
Printing calicoes and other fabrics - - -	7074	28th April 1836	William Preston.
Printing silks, calicoes, and other fabrics - -	7126	22nd June 1836	Charles Pearse Chapman.
Block-printing - - - - -	7137	27th June 1836	John Roberts.
Mode of printing certain colours on calicoes and other fabrics.	7133	2nd July 1836	Bennet Woodcroft.
Printing calicoes and other fabrics - - -	7225	15th Nov. 1836	Augustus Applegath.
Mode of printing certain colours on calico and other fabrics.	7268	24th Dec. 1836	Bennet Woodcroft.
Block-printing - - - - -	7317	7th March 1837	{ Henry Backhouse. Jeremiah Grime.
"Tying machine" to be used by block-printers for supplying colours in the printing of cotton, linen, and woollen cloths, silks, and other substances and articles to which block-printing is applied, and without manual aid.	7412	2nd Aug. 1837	James Matley.
Printing calicoes and other fabrics of cotton, silk, wool, or linen, separately or intermixed.	7455	2nd Nov. 1837	Joseph Lockett.
Machinery for the operation of tying, used in printing cotton, linen, woollen cloths, silks, and other articles and substances to which block-printing can be applied.	7485	23rd Nov. 1837	James Matley.
Printing from figured surfaces - - - -	7552	25th Jan. 1838	Charles Hancock.
Improvements applicable to block-printing - -	7602	26th March 1838	Augustus Coulon.
Preparing certain surfaces for being corroded with acids, to produce patterns and designs for certain kinds of printing and transparencies.	7605	26th March 1838	Charles Hullmandel.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING, &amp;c.—continued.</b>			
Apparatus for block-printing - - - -	7647	22nd May 1838	Augustus Applegath.
Printing or otherwise ornamenting the surfaces of silk, cotton, or linen, applicable to the manufacture of gloves, stockings, and such like articles.	7686	14th June 1838	Joseph Winter.
Block-printing, and certain arrangements connected therewith.	7701	22nd June 1838	Robert Sandiford.
Printing and fixing red and other colours in which red is a constituent, on cotton, silk, woollen, and other fabrics.	7819	27th Sept. 1838	Emile Alexis Fauquet Delarue, junior.
Printing cotton or other fabrics - - - -	7843	3rd Nov. 1838	Abraham Bury.
Printing or otherwise applying and fixing the colouring matter of madder, upon cotton, silk, linen, and other fabrics without dyeing, and by these means producing permanent colours.	7880	22nd Nov. 1838	Emile Alexis Fauquet Delarue, junior.
Printing cotton, woollen, and other fabrics and materials.	7837	15th Jan. 1839	Joseph Burch.
Printing calicoes, muslins, and other woven fabrics; processes connected therewith.	8014	26th March 1839	Joseph Leese, junior.
Printing calicoes and other fabrics - - - -	8069	11th June 1839	Moses Poole.
Printing calicoes and other fabrics - - - -	8109	17th June 1839	Richard Beard.
Printing on calicoes, silks, and other fabrics - -	8133	25th June 1839	Pierre Auguste Ducôté.
Processes to be used in the printing cotton, woollen, silk, or other cloths - - - -	8163	1st Aug. 1839	{ John Mercer. John Dyneley Prince. William Blythe.
Printing calicoes, muslins, and other fabrics - -	8195	15th Aug. 1839	James Crapple Miller.
Printing on calicoes, silks, woollen and other fabrics	8278	21st Nov. 1839	Pierre Auguste Ducôté.
Printing calicoes, muslins, and other fabrics - -	8302	9th Dec. 1839	Harold Potter.
Printing calicoes and other fabrics - - - -	8466	6th April 1840	Richard Beard.
Cylinders, plates and blocks used in printing and embossing.	8502	12th May 1840	Rice Harris.
Method of block-printing on woven fabrics of cotton, linen, silk, or woollen, or any two or more of them intermixed; machinery, apparatus, and implements for that purpose.	8534	9th June 1840	Robert Hampson.
Printing calicoes and other surfaces - - - -	8549	20th June 1840	Thomas De La Rue.
Printing calicoes and other surfaces - - - -	8554	24th June 1840	Joseph Leese, junior.
Manufacturing, preparing, and engraving cylinders, rollers, or other surfaces for printing or embossing calicoes or other fabrics [ <i>by electro-deposition</i> ].	8610	27th Aug. 1840	Joseph Lockett.
Printing cotton, silk, or other woven fabrics - -	8721	25th Nov. 1840	FredericTheodore Philippi.
Cylinders to be used for printing calicoes and other fabrics.	8758	30th Dec. 1840	William Henry Kempton.
Printing [ <i>in colours by electricity</i> ].	8809	23rd Jan. 1841	Isham Baggs.
Making, manufacturing, or producing carpets and hearth-rugs [ <i>printing carpets woven in a common loom.</i> ]	8811	26th Jan. 1841	Edward Henshall.
Cylindrical printing-machinery for printing calicoes and other fabrics; apparatus connected therewith;—applicable to other purposes.	8974	5th June 1841	{ George Bent Ollivant. Adam Howard.
Improvements applicable to the processes or operations connected with printing calicoes and other goods.	9194	21st Dec. 1841	Henry Hough Watson.
Printing cotton, silk, woollen and other stuffs -	9248	8th Feb. 1842	Charles Hancock.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING, &amp;c.—continued.</b>			
Producing damask and other surfaces on leather and other fibrous substances and fabrics [ <i>printing from engraved plates, or from the surfaces of wood, metal, and other substances</i> ].	9448	18th Aug. 1842	George John Newbery.
Machinery used in printing calicoes, silks, and other fabrics.	9577	29th Dec. 1842	John Stephen Bourlier.
Machinery for printing cotton, silk, woollen and other fabrics and materials; also apparatus for preparing the moulds and casting surfaces for printing, and for preparing surfaces previous to the design being delineated upon them.	9726	16th May 1843	Joseph Burch.
Printing fabrics with metallic matters - - -	9843	15th July 1843	James Overend.
Printing calicoes and other fabrics - - -	9908	13th Oct. 1843	Richard Beard.
Printing calicoes with metallic matters - - -	10,052	13th Feb. 1844	James Overend.
Printing and calendering - - - - -	10,318	14th Sept. 1844	{ Robert Ferguson. John Clark.
Manufacture of blocks or surfaces for surface-printing.	10,377	2nd Nov. 1844	Thomas Brown Jordan.
Printing or ornamenting various fabrics - -	10,420	7th Dec. 1844	James Smith.
Printing, staining, or producing marks or patterns in or upon woven, felted, or other fabrics.	10,421	7th Dec. 1844	William Wood.
Apparatus for preparing metal cylinders to be engraved or turned for use in printing calicoes or other fabrics.	10,432	12th Dec. 1844	Joseph Lockett.
Printing calicoes and other fabrics - - -	10,472	16th Jan. 1845	Paul Godefroy.
Printing calicoes and other surfaces - - -	10,626	19th April 1845	William Shepherd.
Machinery for printing calico and other fabrics;—partly applicable to other purposes where resistance to heat is required.	10,657	6th May 1845	Joseph Burch.
Printing and ornamenting fabrics - - - -	10,661	8th May 1845	John McIntosh.
Printing and figuring silk, cotton, and other textile fabrics.	10,908	3rd Nov. 1845	Richard Archibald Brooman.
Printing various fabrics - - - - -	10,994	10th Dec. 1845	Alfred Vincent Newton.
Printing calicoes and other fabrics - - -	11,095	17th Feb. 1846	Edouard Auguste Desire Guichard.
Machinery for tiering in the printing of calicoes and other fabrics.	11,139	25th March 1846	Charles Robert Robinson.
Mode of printing certain colours on calico and other fabrics.	11,250	22nd June 1846	Bennet Woodcroft.
Printing Turkey-red and other colours - - -	11,252	22nd June 1846	{ John Mercer. John Greenwood.
Printing stuffs and other matters - - - -	11,502	21st Dec. 1846	Louis Sylvain Gonin.
Machinery or apparatus for cleaning the surface of woven fabrics, or freeing the same from fibrous or other loose matters previous to printing thereon.	11,678	27th April 1847	John Coates.
Manufacture of copper and other metal cylinders or rollers for printing silks or other fabrics - - }	11,868	9th Sept. 1847	{ David Morgan. John Borlase Jenkins.
Process for preparing and engraving plates adapted to printing cotton stuffs, paper, and other substances.	11,882	7th Oct. 1847	Pierre Auguste Bapaume.
Fabrics elasticated by gutta-percha or any of the varieties of caoutchouc [ <i>printing patterns on such fabrics</i> ].	11,938	2nd Nov. 1847	Thomas Hancock.
Preparation and application of colours suitable for printing stuffs composed of silk or wool, or of a mixture of silk and wool.	11,993	10th Dec. 1847	Joseph Clinton Robertson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING, &amp;c.—continued.</b>			
Manufacture of textile fabrics, stuffs, and tissues, and of new products obtained by the aid of such improvements [ <i>printing fabrics, making blocks and preparing colours for the purpose</i> ].	12,034	19th Jan. 1848	Joseph Clinton Robertson
Machinery or apparatus for printing calicoes and other surfaces.	12,107	3rd April 1848	John Coates.
Improvements partly applicable to the production of coloured patterns or designs on woven fabrics or other plain surfaces.	12,130	20th April 1848	Mathew Cochran.
Printing carpets and other fabrics - - - -	12,167	30th May 1848	William Wood.
Manufacture, stamping, and treatment generally, of woven fabrics of all kinds [ <i>printing nets, muslins &amp;c.; flocking fabrics; compositions used in these processes</i> ].	12,301	2nd Nov. 1848	Meyer Jacobs.
Manufacturing Brussels tapestry, Turkey and velvet or cut-pile carpets and rugs, by which method less warp is required and perfect and regular figures or patterns are produced [ <i>printing a slight cloth to be afterwards re-woven into carpets</i> ].	12,388	21st Dec. 1848	William Curtain.
Machinery partly applicable to printing and other like purposes.	12,421	16th Jan. 1849	William Martin.
Treating and working certain metals and alloys; application of the same to various useful purposes [ <i>making rollers for printing purposes</i> ].	12,534	26th March 1849	Alexander Parkes.
Operations applicable to printing piece-goods -	12,565	16th April 1849	{ Thomas Cocksey. James Nightingale.
Printing calicoes and other surfaces - - -	12,597	1st May 1849	John Dalton.
Ageing fabrics and yarns when printed - - -	12,610	15th May 1849	John Thom.
Printing on cotton, woollen, silk, and other fabrics and materials.	12,658	14th June 1849	Joseph Burch.
Printing cotton fabrics - - - - -	12,799	12th Oct. 1849	Thomas Lightfoot.
Printing calico and other fabrics - - - -	12,979	5th Dec. 1849	Edward Carter.
Printing fabrics of cotton and other fibrous materials.	12,916	3rd Jan. 1850	Thomas Lightfoot.
Machinery or apparatus for printing textile and other fabrics.	12,942	26th Jan. 1850	John Dalton.
Manufacturing figured fabrics, principally designed for the production of carpeting [ <i>from plain cloth, with parti-coloured cut-pile west, and printed in different colours</i> ].	12,954	29th Jan. 1850	James Templeton.
Machinery for the production of and for ornamenting fabrics and tissues generally;—partly applicable to the regulation of other machinery, and to other similar purposes [ <i>Jacquard cloth printing machine</i> ].	12,980	27th Feb. 1850	Mathew Cochran.
Mode of treating certain floated warp or weft, or both, for the purpose of producing ornamented fabrics [ <i>for printing purposes</i> ].	13,005	18th March 1850	Robert Milligan.
Application of orchil for printing in colours - -	13,028	26th March 1850	Joseph Theodore Clenchard.
Printing and application of colours to silk, cotton, linen, woollen, and textile fabrics.	13,068	7th May 1850	Robert Dalglish.
Ageing process in calico-printing, also applicable to other processes in calico-printing.	13,080	23rd May 1850	Simon Pincoffs.
Figuring and ornamenting surfaces; blocks, plates, rollers, implements, and machinery employed therein.	13,183	22nd July 1850	Henry Bessemer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING, &amp;c.—continued.</b>			
Machinery for manufacturing rollers and cylinders for calico-printing and other purposes.	13,225	16th Aug. 1850	William Keates.
Cylinder printing - - - - -	13,257	19th Sept. 1850	Henri Jeremy Christen.
Machinery or apparatus for printing calicoes and other surfaces; manufacture of copper or other metallic rollers to be employed therein; machinery or apparatus connected with such manufacture - - - - -	13,261	19th Sept. 1850	{ James Nasmyth. John Barton.
Printing terry and pile carpets, woollen, silk, and other materials.	13,266	28th Sept. 1850	Joseph Burch.
Manufacture of carpets and other fabrics [ <i>printing carpets by composing colours in patterns</i> ].	13,277	10th Oct. 1850	William Wood.
Staining or printing fabrics - - - - -	13,294	24th Oct. 1850	Thomas Beale Browne.
Printing on woollen, cotton, and other substances; improvements partly applicable to colouring, shading, tinting, or varnishing the same.	13,300	24th Oct. 1850	Samuel Jacobs.
Printing carpets and other fabrics - - - - -	13,445	11th Jan. 1851	William Melville.
Printing or staining textile goods or fabrics [ <i>warps and cloth, by means of perforated plates</i> ].	13,467	21st Jan. 1851	Robert William Sievier.
Printing or staining, figuring and ornamenting woven and textile fabrics, or any other material; machinery and apparatus employed therein.	13,523	24th Feb. 1851	Peter Wood.
Mode of ornamenting certain cloth fabrics [ <i>printing woollen and flock fabrics</i> ].	13,607	26th April 1851	Robert Milligan.
Machinery and apparatus for printing - - - - -	13,633	14th May 1851	{ Luke Smith. Mark Smith. Matthew Smith.
Printing textile fabrics [ <i>carpets</i> ] - - - - -	13,650	29th May 1851	Robert William Sievier.
Producing ornamental surfaces on woven fabrics [ <i>printing</i> ].	13,819	19th Nov. 1851	Henry Bessemer.
Printing and ornamenting out-pile and other fabrics	13,866	19th Dec. 1851	Joseph Burch.
Manufacture or production of ornamental fabrics [ <i>printing the pattern thereon</i> ].	13,898	20th Jan. 1852	James Macnee.
Printing woven fabrics - - - - -	14,022	11th March 1852	{ Colin Mather. Ernest Rolfs.
Preparing cotton and other fabrics for printing -	14,024	15th March 1852	{ John Mercer. John Greenwood.
Printing shawls and other fabrics - - - - -	14,047	29th March 1852	James Melville.
Printing on silk and other fabrics [ <i>forming sheets inlaid with patterns, from colour thickened with gum, which sheets will serve as blocks, or may be wound round cylinders</i> ].	14,078	20th April 1852	Robert Reyburn.
Machinery for colouring and marking fabrics [ <i>by the use of stencil plates</i> ].	14,092	28th April 1852	William Newton.
Production of surfaces for printing or ornamenting fabrics.	14,102	29th April 1852	John Cumming.
Preparing, cutting, and engraving rollers to be used for printing woven and other fabrics; machinery for printing the same.	14,145	29th May 1852	Joseph Lees, junior.
Production of designs upon cotton and other fabrics	14,159	8th June 1852	William Gratrix.
Production of figured surfaces; printing and machinery used therein.	14,180	24th June 1852	Stephen Swan.
Machinery and apparatus for printing fabrics and other surfaces.	14,275	26th Aug. 1852	Auguste Edouard Lora-doux Bellford.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING, &amp;c.—continued.</b>			
<b>VI.—Printing by Mordants and Discharge.</b>			
Preparing crapes, woollen stuffs and silks, in flowers and other figures, before being dyed, which appear, after the goods are dyed, in different colours and on the same piece.	332	10th April 1694	Francis Poussett.
Discharging colours from shawls and other dyed silks, and silk and worsted of every description, or parts thereof, as may be required - - -	2975	7th Oct. 1806	{ Archibald Jones. James Jones.
Producing patterns on cloth previously dyed Turkey-red, and made of cotton or linen, or both.	3654	3rd March 1813	James Thomson.
Producing patterns on calico or linen cloths, by defending from injury the mordants or colours previously applied to them, when such mordants or colours are passed through solutions of acids, acid salts, metallic salts, or combinations of oxy-muriatic acid.	3776	8th Feb. 1814	John Duffy, junior.
Producing the Swiss deep and pale reds by tropical mordants, and a pale blue discharge on the said reds - - - - -	4246	11th April 1818	{ Gilbert Lang. Robert Smith.
Means of producing figured surfaces, sunk and in relief, and of printing therefrom [ <i>printing in colours, by stopping out with varnish or sealing-wax</i> ].	7552	25th Jan. 1838	Charles Hancock.
Producing by dyeing, figures or objects of various colours, in woollen, worsted, cotton, silk, and other cloths.	7709	27th June 1838	James Robinson.
Apparatus connected with the discharging press for conducting, distributing, and applying the discharging and dyeing liquors.	8210	26th Aug. 1839	John Muir, junior.
Manufacture or production of ornamental fabrics [ <i>producing patterns by dyeing and discharge, or dyeing after the application of resists</i> ]. See also "DYEING."	14,290	10th Sept. 1852	Alexander Stewart.
<b>VII.—Paper and Paper-hangings.</b>			
Printing with a roller printing-press, and engraven plates, on vellum or parchment, his Majesty's name, and also the name of his consort the Queen, with the imperial arms and badges of every of them.	137	28th March 1662	George Tomlyn.
Printing his Majesty's arms on paper - - -	249	9th Jan. 1686	{ Nicholas Dupin. Adam de Cardonels. Charles de Gruchy. Martin Pagnault. James de May. Robert Shales.
Printing paper in various figures and colours, by means of engines made of brass or other metal, with fire, without any paint or stain.	304	18th Oct. 1692	William Bayly.
Imprinting blue and other coloured paper - - -	305	18th Oct. 1692	Nathaniel Gifford.
Machine for printing, staining and colouring paper -	510	10th April 1764	{ Thomas Fryer. Thomas Greenough. John Newbery.
Machinery for printing and stamping paper -	1007	14th March 1772	{ Joseph Adkin, sen. Joseph Adkin, jun. Charles Taylor. Thomas Walker, junior.
Printing paper in designs - - - -	1066	28th Feb. 1774	Anthony George Eckhard

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PAINTING, &amp;c.—continued.</b>			
Cutting and preparing prints or moulds of complete objects and designs ("arabesque") and from three feet seven inches to ten feet or more in length, and from two and a half feet to three and four feet or more in width; using and applying such prints or moulds in printing, painting, or staining paper or any manufactures of linen, woollen, cotton, or silk, or from mixtures of the same; in various designs and colours, and to be used as hangings for rooms.	1289	20th April 1781	William Roberts.
Printing paper by wooden or metal blocks and metal plates.	1356	12th Feb. 1783	John Smith.
Machine for printing paper-hangings by means of which any number of colours may be printed at one and the same time.	1540	18th March 1786	Jacob Bunnett.
Machine for printing on paper - - - -	1748	29th April 1790	William Nicholson.
Preparing, printing and silvering paper to resemble damask, lace, and various silk stuffs, for hanging and other furniture.	1953	30th April 1793	Francis Frederick Eckhardt.
Printing on paper and other articles - - -	2518	20th June 1801	John Aloysius Senefelder.
Machine for laying colours called grounds on paper, and printing the same, &c. &c.	3777	8th Feb. 1814	Timothy Harris.
Printing paper for paper-hanging and other purposes.	3974	10th Jan. 1816	Edward Cowper.
Machinery for printing or staining paper for hangings.	4763	22nd April 1823	William Palmer.
Machines and apparatus for printing paper or other substances.	4801	10th June 1823	Edward Cowper.
Printing paper and other substances by means of blocks or surface-printing.	4812	15th July 1823	Edward Cowper.
Method of stamping [ <i>paper, &amp;c., and by the same operation printing colours in the same device</i> ].	4898	7th Feb. 1824	Sir William Congreve, Bart.
Machinery and apparatus applicable in block-printing on paper.	6728	4th Dec. 1834	James Hudson.
Construction of cylinder printing-machines used for printing paper.	6634	13th May 1835	John Buchanan.
Embossing and printing at the same time by means of a cylinder or roller, on paper.	6927	10th Nov. 1835	Thomas Greig.
Printing paper-hangings - - - -	7411	29th July 1837	William Palmer.
Tiering machine for supplying colours to be used by block-printers in the printing of paper and other substances.	7412	2nd Aug. 1837	James Matley.
Printing paper - - - - -	7455	2nd Nov. 1837	Joseph Lockett.
Tiering in the printing of paper, &c. - - -	7485	23rd Nov. 1837	James Matley.
Process and apparatus used in producing coloured impressions on paper and pasteboard, by surface-printing.	7673	7th June 1838	Charles Knight.
Printing paper and other materials - - -	7937	15th Jan. 1839	Joseph Burch.
Printing on paper - - - - -	8133	26th June 1839	Pierre Auguste Dûcoté.
Printing on paper - - - - -	8278	21st Nov. 1839	Pierre Auguste Dûcoté.
Machinery for printing paper-hangings - - -	9577	29th Dec. 1842	John Stephen Bourlier.
Machinery for printing on paper and other materials; apparatus for preparing moulds and casting surfaces for printing; preparing surfaces previous to the design being delineated thereon.	9728	16th May 1843	Joseph Burch.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING, &amp;c.—continued.</b>			
Printing or staining paper - - - - -	11,157	1st April 1846	Harold Potter.
Printing paper and other matters - - - - -	11,502	21st Dec. 1846	Louis Sylvain Gonin.
Machines for printing paper and other fabrics - -	11,505	21st Dec. 1846	Augustus Applegath.
Machinery for printing and damping paper [ <i>printing progressive numbers</i> ].	11,526	12th Jan. 1847	John Britten.
Machinery for printing and staining paper and other fabrics.	11,883	7th Oct. 1847	Nathaniel Fortescue Taylor.
Printing on paper - - - - -	12,658	14th June 1849	Joseph Burch.
Machinery for printing [ <i>tissue papers, &amp;c., in colours by means of rollers</i> ].	12,800	12th Oct. 1849	Jules Le Bastier.
Machinery partly applicable to printing or pressing cards.	12,994	7th March 1850	William Church.
Printing on paper and other substances; partly applicable to colouring, shading, tinting, or varnishing the same.	12,300	24th Oct. 1850	Samuel Jacobs.
<b>VIII.—Leather, Parchment, and Oil-cloths.</b>			
Printing with a roller printing-press, and engraven plates, on vellum and parchment, His Majesty's name, and also the name of his consort the Queen, with the imperial arms and badges of every of them.	137	29th March 1662	George Tomlyn.
Printing upon oil-cloth and leather, gold and silver flowers, and other figures in various colours.	336	17th Oct. 1694	Symon Thenneman.
Machine for printing, staining, and colouring leather	810	10th April 1764	{ Thomas Fryer. Thomas Greenough. John Newbery.
A double copper cylinder and plate for printing sprigs or spots on leather.	2459	17th Dec. 1800	James Duxbury.
Ornamenting oil-cloths for tables or floors, and } wainscot or plaster walls or partitions [ <i>by painting</i> ] }	3593	6th Aug. 1812	{ Thomas Hubball. William Robert Wale King.
Preparing, making, and finishing metal and composition blocks, plates, and rollers, also types and dies, by which patterns can be printed and impressed on leather.	4064	30th Sept. 1816	Robert Clayton.
Printing parchment, vellum, leather, and other substances, by means of blocks or surface-printing.	4813	15th July 1823	John Leigh Bradbury.
Means of producing figured surfaces, sunk, and in relief, and of printing therefrom [ <i>printing or ornamenting leather</i> ].	7552	25th Jan. 1838	Charles Hancock.
Process and apparatus used in producing coloured impressions on vellum and parchment by surface-printing.	7673	7th June 1838	Charles Knight.
Printing or otherwise ornamenting the surface of leather, particularly applicable to the manufacture of gloves, stockings, and such like articles.	7686	14th June 1838	Joseph Winter.
Printing on oil-cloths, leather, and other fabrics; material to be used in printing.	8275	21st Nov. 1839	Pierre Auguste Dûcoté.
Printing or delineating patterns on cloth for floor-cloths, covers, and other uses.	8178	14th Dec. 1841	William Edward Newton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>PRINTING, &amp;c.—continued.</b>			
Machinery for printing oil-cloth and other fabrics and materials; also apparatus for preparing the moulds and casting surfaces for printing; and for preparing surfaces previous to the design being delineated upon them.	9728	16th May 1843	Joseph Burch.
Printing on leather and skins - - - -	10,353	17th Oct. 1844	Edouard Guigues.
Printing, staining, figuring, and ornamenting leather or any other material; machinery and apparatus employed therein.	18,523	24th Feb. 1851	Peter Wood.
<b>IX.—Printing Earthenware; printing and transferring.</b>			
Preparing, making, and finishing metal and composition blocks, plates, and rollers, also types and dies, by which patterns can be imprinted and impressed on earthenware.	4084	30th Sept. 1816	Robert Clayton.
Obtaining impressions from engravings in various colours, and applying the same to earthenware, porcelain, china, glass, and other substances -	6162	17th Sept. 1831	{ John Potts. Richard Oliver. William Wainwright Potts.
Producing patterns in one or more colours to be transferred to earthenware, porcelain, china, glass, and other similar substances.	6938	3rd Dec. 1835	William Wainwright Potts.
Method or process whereby impressions or patterns in one or more colours or metallic preparations, are produced and transferred to surfaces of metal, wood, cloth, paper, papier-mâché, bone, slate, marble, or other suitable substance prepared or otherwise - - - -	7139	2nd July 1836	{ William Wainwright Potts. William Machine. William Bourne.
Means of producing figured surfaces, sunk, and in relief, and of printing therefrom [ <i>printing earthenware and glass</i> ].	7552	25th Jan. 1838	Charles Hancock.
Machines applicable to the printing patterns in one or more colours or metallic preparations, to be transferred to earthenware, porcelain, china, glass, metal, wood, cloth, paper, papier-mâché, bone, slate, marble, and other suitable substances.	7776	21st Aug. 1838	William Wainwright Potts.
Printing china, porcelain, earthenware, and other similar ware.	8278	21st Nov. 1839	Pierre Auguste Dûcoté.
Printing china and pottery ware - - - -	8287	12th June 1841	Edward Palmer.
Producing damask and other surfaces on leather and other fibrous substances and fabrics [ <i>transferring printed and painted surfaces on to fibrous textures suitable for window blinds and transparent screens</i> ].	9448	18th Aug. 1842	George John Newbery.
Printing designs for ornamenting earthenware and china [ <i>repairing materials</i> ].	11,313	23rd July 1846	George Henry Fourdrinier.
Transferring ornamental designs on to woven or textile fabrics; apparatus connected therewith.	14,094	29th April 1852	Charles Fisher.
Transferring and printing - - - -	14,224	14th Oct. 1852	John Field.
[For Materials for Printing, see "DYEING AND COLOURING."]			
[For Printing Inks, see "STATIONERY."]			

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>R.</b>			
<b>RAILWAYS AND RAILWAY ROLLING-STOCK.</b>			
<b>I.—Making and working Railways.</b>			
Portable railway or artificial road, to move along with any carriage to which it is applied.	953	5th Feb. 1770	Richard Lovell Edgeworth.
Erecting and constructing railroads without arches -	3405	4th March 1811	Sarah Guppy.
Constructing railroads - - - - -	3959	14th Nov. 1815	Joseph de Baader.
Construction of railways and frameways for facilitating the conveyance of carriages, goods, and materials along the said ways - - - - -	4067	30th Sept. 1816	{ William Losh. George Stephenson.
Manufacture and construction of a wrought and malleable iron railroad or way.	4503	23rd Oct. 1820	John Birkenshaw.
Construction of railways or tramroads - - - -	4618	22nd Nov. 1821	Henry Robinson Palmer.
Construction of railroads and tramroads;—applicable to other purposes.	4913	28th Feb. 1824	William James.
Railways - - - - -	5117	5th March 1825	William Henry James.
Application of railways; machinery to be employed thereon.	5145	2nd April 1825	Jacob Jedder Fisher.
Construction of railroads - - - - -	5148	12th April 1825	Robert William Brandling.
Construction of railways and tramroads - - -	5160	10th May 1825	Thomas Hill.
Constructing roads or ways for locomotive or steam carriages to travel over.	5267	13th Oct. 1825	Josiah Easton.
Railroad [ <i>on the suspension principle</i> ] - - - -	5790	21st May 1829	Maxwell Dick.
Construction of railroads - - - - -	6187	31st Oct. 1831	James Macdonald.
Construction of railways - - - - -	6281	29th June 1832	James Macdonald.
Construction of trams of rails, or tramroads on which locomotive engines can work.	6306	8th Sept. 1832	Richard Badnall, junior.
Construction of iron railways - - - - -	6326	6th Nov. 1832	Harry Scrivenor.
Constructing railways - - - - -	6433	1st June 1833	William Jessop.
Construction of railroads - - - - -	6438	20th June 1833	{ Joseph Gibbs. Augustus Applegath.
Construction of railways - - - - -	6750	22nd Jan. 1835	John Day.
Railways - - - - -	6766	16th Feb. 1835	Joseph Price.
Railways - - - - -	6827	5th May 1835	John Reynolds.
Railways - - - - -	7069	23rd April 1836	George Augustus Kollman.
Railways - - - - -	7100	18th May 1836	Pierre Barthelemy Guinibert Debac.
Railways - - - - -	7163	6th Aug. 1836	Thomas Binns.
Railways - - - - -	7199	4th Oct. 1836	James White.
Railways - - - - -	7217	8th Nov. 1836	James Elnathan Smith.
Construction and arrangement of railway tunnels, to be worked by locomotive engines.	7244	3rd Dec. 1836	Henry Booth.
Tramroads or railways - - - - -	7252	9th Dec. 1836	John Yates.
Railroads - - - - -	7373	13th May 1837	Pierre Barthelemy Guinibert Debac.
Railroads - - - - -	7563	8th Feb. 1838	Jerome Deville.
Construction of railroads - - - - -	7692	18th June 1838	John White.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Construction of railroads and tramroads to facilitate the ascent and descent of hills.	7766	10th Aug. 1838	Eugene de Beuret.
Construction of tramways or railways - - -	7809	13th Sept. 1838	Thomas Wilkinson.
Railroads - - - - -	7852	3rd Nov. 1838	Jerome Deville.
Mechanism applicable to railways - - -	7911	17th Dec. 1838	John Hawkshaw.
Machinery for cutting and removing earth, applicable to levelling ground for railroads.	8017	27th March 1839	William Newton.
Railroads - - - - -	8026	9th April 1839	Thomas Parkin.
Railways or tramroads - - - - -	8073	22nd May 1839	Thomas Harper.
Railways - - - - -	8200	17th Aug. 1839	George Augustus Kollman.
Railways - - - - -	8219	16th Sept. 1839	{ Isaac Dodds. William Owen.
Construction of railways - - - - -	8410	3rd March 1840	John Rangely.
Constructing roads or ways on which carriages may be impelled or propelled.	8644	21st Sept. 1840	Henry Pinkus.
Railroads - - - - -	8659	15th Oct. 1840	Robert Pettit.
Method of combining and applying materials applicable to the formation or construction of roads or ways [constructing railways so as to facilitate the passage of carriages up inclined planes on such ways].	8363	15th Oct. 1840	Henry Pinkus.
Railroads - - - - -	8699	12th Nov. 1840	Eugenius Birch.
Railways - - - - -	8750	23rd Dec. 1840	George Thornton.
Constructing railways - - - - -	8840	8th Feb. 1841	Joseph Scott.
Railways - - - - -	8977	5th June 1841	Joseph Gibbs.
Construction of railways - - - - -	9455	31st Aug. 1842	Charles Frederick Guitard.
Railways - - - - -	9473	16th Sept. 1842	William Henry James.
Construction of railways - - - - -	9580	29th Dec. 1842	Baron Victor de Wydroff.
Construction of roads - - - - -	9737	16th May 1843	{ John Lucena Ross Kettle. William Prosser, junior.
Railways; machinery employed thereon - - -	9855	26th July 1843	Edward Eyre.
Construction of railroads, and mode of working the same.	10,168	30th April 1844	John Mcville.
Railways - - - - -	10,662	10th May 1845	{ William Prosser, junior. Jacob Brett.
Railways - - - - -	10,753	3rd July 1845	William Newton.
Railways - - - - -	10,854	6th Oct. 1845	Thomas Russell Crampton
Railways for security and convenience of the public -	10,901	31st Oct. 1845	Robert William Brandling.
Working railways - - - - -	10,905	31st Oct. 1845	Thomas Forsyth.
Construction of railways; machinery and apparatus for working carriages thereon - - -	10,949	18th Nov. 1845	{ Frederick Oldfield Ward. Malcolm William Hilles.
Railways - - - - -	11,024	3rd Jan. 1846	Thomas Swinburne.
Construction of railways - - - - -	11,026	6th Jan. 1846	Conrad Haverkam Greenhow.
Construction and working of railways - - -	11,056	22nd Jan. 1846	Charles Wheeler.
Construction of railways - - - - -	11,068	31st Jan. 1846	Andre Etienne.
Railways - - - - -	11,099	19th Feb. 1846	Robert Nisbet.
Construction of railways - - - - -	11,134	11th March 1846	{ Henry Austin. Joseph Quick.
Improvements applicable to machinery or apparatus to be used on railways.	11,151	25th March 1846	Joseph Needham Tayler.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Construction of railways - - - - -	11,216	22nd May 1846	Hugh Greaves.
Railways - - - - -	11,237	4th June 1846	Joseph Clinton Robertson.
Construction of ways, passages, and roads, for locomotive carriages to travel on.	11,274	29th June 1846	Thomas Parkin.
Railways - - - - -	11,295	14th July 1846	Sir Samuel Brown.
Machinery for working railways - - - - -	11,318	30th July 1846	{ Robert Mallett. John Somers Dawson.
Railways - - - - -	11,361	31st Aug. 1846	Henry Henson.
Railways - - - - -	11,388	2nd Oct. 1846	Charles Marie Pouillet.
Railways - - - - -	11,485	14th Dec. 1846	Elijah Galloway.
Arranging the rails on certain parts of railways -	11,490	14th Dec. 1846	{ John Todd. William Johnston.
Constructing parts of railways - - - - -	11,597	24th Feb. 1847	Charles Heard Wild.
Permanent way of railways - - - - -	11,631	23rd March 1847	Charles Fox.
Construction of railways - - - - -	11,642	29th March 1847	John Henry Griesbach.
Railways - - - - -	11,648	6th April 1847	Benjamin Tucker Stratton.
Construction of railways - - - - -	11,715	24th May 1847	{ William Bridges Adams. Robert Richardson.
Railways - - - - -	11,809	20th July 1847	William Burch.
Manufacture of parts of railway; apparatus used in constructing railways.	11,819	29th July 1847	William Baines.
Railways - - - - -	11,852	2nd Sept. 1847	Richard Madigan.
Railways - - - - -	12,149	9th May 1848	Lewis Dunbar Brodie Gordon.
Construction of certain parts of railways - -	12,237	11th Aug. 1848	Samuel George Hewitt.
Construction of permanent ways of railways -	12,438	23rd Jan. 1849	William Henry Barlow.
Railways - - - - -	12,492	28th Feb. 1849	Perceval Moses Parsons.
Railroads and other roads - - - - -	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Railways - - - - -	12,552	28th March 1849	Osborne Reynolds.
Parts of the permanent ways of railways -	12,659	14th June 1849	Peter William Barlow.
Railways - - - - -	12,661	14th June 1849	Henry Henson Henson.
Construction of railways - - - - -	12,758	6th Sept. 1849	{ Sir John Macneill. Thomas Barry.
New system of railway called "Helicoide," or helical railway, and a circular chariot.	12,767	13th Sept. 1849	Edme Augustin Chameroy.
Permanent ways of railways - - - - -	12,917	3rd Jan. 1850	{ Peter William Barlow. William Henry Barlow.
Construction of railways; machinery for the same -	13,029	5th April 1850	James Samuel.
Construction of railways - - - - -	13,132	12th June 1850	William Edward Newton.
Construction of parts of permanent ways of railways	13,158	3rd July 1850	James Ward Hoby.
Construction of railways - - - - -	13,179	17th July 1850	John Melville.
Constructing and working parts of railways -	13,211	3rd Aug. 1850	Joseph Shaw.
Railways - - - - -	13,316	7th Nov. 1850	Richard Archibald Broome.
Construction of the permanent way of railways -	13,394	7th Dec. 1850	James Ward Hoby.
Construction of the permanent way of railways -	13,493	7th Feb. 1851	Charles de Bergue.
Construction of the permanent way of railways -	13,500	10th Feb. 1851	Richard Stuart Norris.
Constructing the ballast of railways - -	13,514	17th Feb. 1851	Henry François Marie de Pons.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Railroads - - - - -	13,602	26th April 1851	Daniel Dalton.
Permanent ways of railways - - - - -	13,603	26th April 1851	John Coope Haddan.
Parts of railways - - - - -	13,637	19th May 1851	Perceval Moses Parsons.
Construction of roads and ways for the transit of passengers and goods [ <i>formation of the permanent way of railways</i> ].	13,653	3rd June 1851	William Bridges Adams.
Improvements applicable to railways - - -	13,760	2nd Oct. 1851	James Warren.
Forming or covering roads and other surfaces [ <i>railways</i> ].	13,765	9th Oct. 1851	Sir John Scott Lillie.
Construction of railways; machinery by which some of the improvements are effected.	13,782	22nd Oct. 1851	Joseph Beattie.
Permanent way of railways - - - - -	13,801	4th Nov. 1851	{ Joseph Robinson. Charles May. William Thomas Doyne.
Railway construction - - - - -	13,804	6th Nov. 1851	Alexander Doull.
Railways - - - - -	13,905	22nd Jan. 1852	Peter Armande Le Comte de Fontainemoreau.
Preparing compositions to be used in railway and other structures in substitution of iron, wood, and stone.	13,941	31st Jan. 1852	Owen Williams.
Railways - - - - -	13,959	9th Feb. 1852	William Beckett Johnson.
Manufacture of certain parts of railways - -	13,973	14th Feb. 1852	{ Arthur Wellington Callen. John Onions.
Construction of railways [ <i>applying an electro-galvanic current to the rails of railways for preventing the metal oxydizing</i> ].	14,018	8th March 1852	Paul Rapsey Hodge.
Construction of railways - - - - -	14,089	24th April 1852	Richard Christopher Mansell.
Construction of the permanent way of rail, tram, or other roads.	14,096	29th April 1852	Peter Bruff.
Construction of docks, basins, railways, and apparatus connected therewith, for raising or removing vessels or ships out of the water, or on to dry land, for the purpose of preserving or repairing the same.	14,127	17th May 1852	William Edward Newton.
Railways; materials and apparatus employed therein or connected therewith.	14,182	24th June 1852	James Edward M'Connell.
Railways - - - - -	14,189	24th June 1852	John M'Conochie.
<b>II.—Making and working Atmospheric Railways.</b>			
Means of intercourse by which persons may be conveyed, goods transported, or intelligence communicated from place to place, with greater expedition than by means of steam-carriages, steam-vessels, or carriages drawn by animals [ <i>by the pressure of condensed air through hollow tubes</i> ].	4905	19th Feb. 1824	John Vallance.
Method of or apparatus for communicating or extending motive-power, by means whereof carriages or waggons may be propelled on railways [ <i>by pneumatic pressure</i> ].	6570	1st March 1834	Henry Pinkus.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Inland transit;—applicable to and may be combined with an improved method of, or combination of method and apparatus for communicating and transmitting or extending motive-power, by means whereof carriages or waggons may be propelled on railways [ <i>pneumatic railway</i> ].	6885	17th Aug. 1835	Henry Pinkus.
Valves and their combination with machinery [ <i>"Samuda atmospheric railway"</i> ].	7920	3rd Jan. 1839	Samuel Clegg.
Atmospheric railway - - - - -	8638	22nd Sept. 1840	Thomas Pain.
Atmospheric railways - - - - -	10,078	24th Feb. 1844	John Aitken.
Manufacture and arrangement of parts and apparatus for the construction and working of atmospheric railways - - - - -	10,187	30th April 1844	{ Jacob Samuda. Joseph D'Aguilar Samuda.
Covering valves used when propelling by atmospheric pressure.	10,270	24th July 1844	William Brockedon.
Working atmospheric railways; machinery for constructing the apparatus employed therein - -	10,358	22nd Oct. 1844	{ James Nasmyth. Charles May.
Working atmospheric railways - - - - -	10,443	18th Dec. 1844	{ William Prosser, junior. Jean Baptiste Carcano.
Atmospheric railways - - - - -	10,471	16th Jan. 1845	Henry Adolphe Dubern.
Working atmospheric railways - - - - -	10,671	17th May 1845	Alexander M'Dougall.
Working atmospheric railways - - - - -	10,707	5th June 1845	William Palmer.
Atmospheric system of propulsion, applicable to other motive purposes [ <i>atmospheric railway</i> ] -	10,731	23rd June 1845	{ Thomas Clarke. John Varley.
Atmospheric railways - - - - -	10,735	25th June 1845	Joseph Zambaux.
Exhausting air from tubes or vessels, for the purpose of working atmospheric railways, and for other purposes.	10,736	25th June 1845	William Sykes Ward.
Manufacture of tubes for atmospheric railways, and other purposes.	10,779	21st July 1845	Jacob Brett.
Construction and working of atmospheric railways - - - - -	10,794	31st July 1845	{ Joseph Quick. Henry Austin.
Atmospheric railways - - - - -	10,809	7th Aug. 1845	Henry Emanuel.
Atmospheric railways - - - - -	10,873	10th Oct. 1845	Frederick Harlow.
Atmospheric railways - - - - -	10,902	31st Oct. 1845	Charles Henry Collins.
Materials employed in constructing and working atmospheric railways.	10,982	6th Dec. 1845	John Robert Johnson.
Propelling on land and water [ <i>atmospheric railways</i> ]	11,069	31st Jan. 1846	James Pilbrow.
Obtaining and applying motive-power [ <i>atmospheric railways</i> ] - - - - -	11,077	11th Feb. 1846	{ Thomas Clarke. Mark Freeman. John Varley.
Apparatus for working atmospheric and other railways - - - - -	11,129	11th March 1846	{ George Hinton Bovill. Robert Griffiths.
Atmospheric railways - - - - -	11,184	28th April 1846	Charles De Bergue.
Manufacture and arrangement of parts and apparatus for the construction and working of atmospheric railways.	11,330	11th Aug. 1846	William Warcup.
Valves for closing the tubes of atmospheric railways.	12,014	5th Jan. 1848	William Froude.
Atmospheric railways - - - - -	12,417	13th Jan. 1849	Conrad Haverkam Greenhow.
Atmospheric and other railways [ <i>also a balloon railway</i> ].	12,452	6th Feb. 1849	John Browne.
Valves for atmospheric railways - - - - - [See also "TAPS AND VALVES, &c."]	12,568	26th April 1849	William Faulconbridge.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
<b>III.—Rails, Chairs, and Sleepers.</b>			
Forming a cast-iron rail or plate for making railroads for the working and running of waggons and other carriages on public and other roads; fastening such rail or plate on such roads.	2682	28th Feb. 1803	Jonathan Woodhouse.
Constructing iron rails for railways - - -	4149	5th Aug. 1817	Thomas Hawks.
Manufacture and construction of a wrought and malleable iron railroad or way [ <i>rails</i> ].	4503	23rd Oct. 1820	John Birkinshaw.
Construction of iron rails for railways - - -	4591	14th Sept. 1821	William Losh.
Construction of railroads and tramroads;—applicable to other purposes [ <i>using hollow rails</i> ].	4913	28th Feb. 1824	William James.
Construction of railways and tramroads [ <i>the rails made tubular</i> ].	5160	10th May 1825	Thomas Hill.
Formation of iron rails for railroads, and chairs or pedestals upon which the rails may be placed.	5704	18th Sept. 1828	William Losh.
Making metallic rails for the construction of railroads	6317	29th Sept. 1832	Sherman Converse.
Rail for railways - - - - -	6457	10th Aug. 1833	{ Robert Smith. John Walkinshaw.
Supporting the iron rails for edge railways - -	6524	11th Dec. 1833	Robert Stephenson, junior.
Sleepers or bearers applicable to railroads - -	6940	3rd Dec. 1835	Thomas Parkin.
Formation of rails or rods for making railways; method of fixing or forming the same.	7209	13th Oct. 1836	John Ruthven.
Machinery or rolls for rolling iron or other metals, applicable to rails for roads and bars for other purposes.	7380	25th May 1837	Joseph Freeman.
Rails for railroads - - - - -	7487	25th Nov. 1837	Henry Purser Vaile.
Rail for railway purposes; manufacturing and fastening down the same.	7590	10th March 1838	Thomas Evans.
Rolling, making, or manufacturing rails and various other heavy articles of metal; machinery or apparatus used in the same.	7666	2nd June 1838	James Hardy.
Rails and chairs for railways - - - - -	8595	7th Aug. 1840	Andrew Smith.
Railway-chairs; machinery for their construction -	8741	16th Dec. 1840	Joseph Beattie.
Manufacture of railway-chairs - - - - -	8847	15th Feb. 1841	{ James Ransome. Charles May.
Rails for railway purposes - - - - -	9017	7th July 1841	George Onions.
Covering surfaces with wood [ <i>covering cast-iron rails for railways</i> ].	9231	22nd Jan. 1842	Antoine Mertens.
Preparing wrought iron intended for rails and certain other articles.	9296	21st March 1842	Sydney Jessop.
Construction of rails for tramways and railways -	9582	11th Jan. 1843	Crawshay Bailey.
Rails for railways - - - - -	10,115	20th March 1844	André Drouet de Charlieu.
Covering railway-sleepers - - - - -	10,270	24th July 1844	William Brockedon.
Manufacture for and method of sustaining the } rails of railways - - - - - }	10,467	14th Jan. 1845	{ Henry Charles Lacy. George Watson Buck.
Preparing sleepers and chairs and spikes for railways	10,609	14th April 1845	John Coope Haddan.
Manufacture of rails and other parts of railways -	10,663	10th May 1845	John Mellor Chapman.
Rails and trams for railroads and tramways - -	10,749	3rd July 1845	John Hopkins.
Rails for railways - - - - -	10,851	6th Oct. 1845	Moses Poole.
Railway rails and chairs - - - - -	10,882	16th Oct. 1845	Stephen Reed.
Sleepers or blocks for supporting railways - -	10,890	23rd Oct. 1845	Joseph Orsi.
Machinery for making candlestick-pans and other articles produced by stamping; machinery for making sockets or tubes for candlesticks [ <i>and rails for railways</i> ].	11,197	5th May 1846	William Church.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Manufacture of railway-chairs - - - -	11,222	26th May 1846	Edward Alfred Cowper.
Rails for railways, and manner of securing them -	11,577	12th Feb. 1847	Egbert Hedge.
Railway-chairs; fastenings used therewith - -	11,641	27th March 1847	Charles May.
Railway-chairs; machinery for preparing railway-sleepers - - - - -	11,694	6th May 1847	{ Charles Fox. John Coope Haddan.
Manufacture of rails for railroads - - - -	11,721	27th May 1847	George Benjamin Thorncycroft.
Moulding; manufacture of certain articles of cast iron [railway-chairs].	11,738	10th June 1847	William Darling.
Chairs used on railways; fixing the same - -	11,839	3rd Aug. 1847	John Yule.
Manufacture of wrought-iron railway-bars and railway-chairs.	11,918	21st Oct. 1847	Richard Shaw.
Construction of chairs for railways - - -	12,808	12th Oct. 1849	John Torkington.
Apparatus for receiving and retaining the rails of railways.	12,893	15th Dec. 1849	George Wythes.
Sleepers of railways - - - - -	13,246	5th Sept. 1850	{ William Erskine Cochran. Henry Francis.
Machinery for the manufacture of railway-chairs -	13,452	14th Jan. 1851	Charles Barlow.
Construction of the permanent way of railways [by a method of casting or forming the chairs and other metallic portions of railways].	13,500	10th Feb. 1851	Richard Stuart Norris.
Machinery employed in the manufacture of blooms or piles for railway and other bars.	13,535	27th Feb. 1851	Thomas Ellis, senior.
Wrought iron or malleable iron railway-chairs -	13,565	24th March 1851	Thomas Hill.
Construction of roads and ways for the transit of passengers, materials, and goods, locomotive-engines and carriages;—partly applicable to other like purposes [making rails and sleepers].	13,653	3rd June 1851	William Bridges Adams.
Construction of railways; machinery by which some of the improvements are effected [also chairs, rails, &c.].	13,782	22nd Oct. 1851	Joseph Beattie.
Construction of rails for railways - - - -	13,811	13th Nov. 1851	Hugh Bowlsby Willson.
Means to prolong the durability of the rails on railways.	13,970	13th Feb. 1852	Annet Gervoy.
Construction of railways [also rails, chairs, and sleepers].	14,089	24th April 1852	Richard Christopher Mansell.
Manufacturing railway-chairs - - - -	14,329	19th Oct. 1852	Alfred Vincent Newton.
<b>IV.—Turn-tables and Switches;—raising and lowering Carriages.</b>			
Raising or lowering weights, carriages, or goods on railroads.	5646	1st May 1828	Jonathan Brownill.
Transporting carriages from one level to another on railways.	6766	16th Feb. 1835	Joseph Price.
Arrangement of rails for causing a train to pass from one line to another.	7773	15th Aug. 1838	Charles Fox.
Mechanism applicable to railways [switch or shunt protector].	7911	17th Dec. 1838	John Hawkshaw.
Capstan and winch for drawing and working on railroads, by drawing pulleys with flat and round ropes.	7981	23rd Feb. 1839	Thomas Pratt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Constructing, applying, and using railway switches for connecting different lines of railways, or two distinct railways, and for passing steam and other engines, carriages, and waggons from one to the other of such railways; apparatus connected therewith.	8276	21st Nov. 1839	John Faram.
Mechanism applicable to turn-tables for changing the position of carriages on railroads.	8745	18th Dec. 1840	Elias Robison Handcock.
Turning-table for railway purposes - - -	8818	28th Jan. 1841	William Currie Harrison.
Construction of turn-tables to be used on railways -	8837	8th Feb. 1841	Elisha Oldham.
Apparatus for changing line on railways - -	9181	16th Dec. 1841	Charles Edward Austin.
Switch for railway purposes - - - - -	9535	3rd Dec. 1842	Charles Heard Wild.
Turn-tables to be used on or in connection with railways.	9797	22nd June 1843	Samuel Ellis.
Turn-tables to be used on railways - - -	10,558	13th March 1845	Thomas Dunn.
Mechanical contrivances by which railway-carriages are made to cross from one line of rails to another, and on to sidings.	10,832	11th Nov. 1845	Bryan Donkin.
Apparatus applicable to turn-tables - - -	10,954	18th Nov. 1845	Edward Brown Wilson.
Apparatus for moving railway-carriages on to railways.	11,144	25th March 1846	Thomas Pope.
Warping or hauling vessels;—applicable to moving other bodies [ <i>hauling carriages on railways</i> ] - }	11,538	21st Jan. 1847	{ George Beadon. Andrew Smith.
Railway turn-tables - - - - -	11,679	28th April 1847	Robert Broad.
Railway turn-tables - - - - -	11,680	29th April 1847	Richard Archibald Broomman.
Railway-switches - - - - -	11,694	6th May 1847	{ Charles Fox. John Coope Haddan.
Turn-tables on or in connection with railways -	11,718	27th May 1847	Alexander Allan.
Turn-tables - - - - -	11,852	2nd Sept. 1847	Richard Madigan.
Machinery and apparatus for placing carriages on to a line of rails, for removing them from one line to another, and for turning them.	11,934	2nd Nov. 1847	Thomas Dunn.
Turn-tables - - - - -	12,024	13th Jan. 1848	William Thorold.
Railway turn-tables;—applicable to certain shafts or axles driven by steam or other motive-power - }	12,364	21st Dec. 1848	{ William Baker. John Ramsbottom.
Turn-tables - - - - -	12,679	28th June 1849	Edward Woods.
Permanent ways of railways [ <i>also turn-tables</i> ] -	12,917	3rd Jan. 1850	{ Peter William Barlow. William Henry Barlow.
Apparatus for changing the position of carriages on railways - - - - -	12,962	7th Feb. 1850	{ Edward Ormerod. Joseph Shepherd.
Machinery and apparatus for moving engines and carriages from one line of rails to another, and for turning them.	13,355	19th Nov. 1850	Thomas Dunn.
Construction of railways; machinery by which some of the improvements are effected [ <i>making points, switches, &amp;c.</i> ]	13,782	22nd Oct. 1851	Joseph Beattie.
Construction of machinery or apparatus applicable to railway turn-tables and other similar apparatus.	14,253	7th Aug. 1852	Roger Hind.
<b>V.—Trenails and other Fastenings.</b>			
Manufacture of railway and other pins or bolts, wood fastenings, and trenails - - - }	8847	15th Feb. 1841	{ James Ransome. Charles May.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Construction of keys, wedges, or fastenings for engineering purposes [ <i>securing rails in the chairs, and fastening the chairs to the blocks or sleepers of railways.</i> ]	10,093	6th March 1844	William Henry Barlow.
Manufacture of bolts, railway pins, spikes, and rivets.	10,457	11th Jan. 1845	Robert Griffiths.
Preparing spikes for railways [ <i>trenails</i> ] - - -	10,609	14th April 1845	John Coope Haddan.
Trenails and fastenings to be used with railway-chairs.	11,641	27th March 1847	Charles May.
Trenails or fastenings - - - - -	11,694	6th May 1847	{ Charles Fox. John Coope Haddan.
Machinery for the manufacture of railway or other pins, bolts, nuts, and spikes.	11,741	12th June 1847	James Johnson.
Manufacture of railway-keys - - - - -	12,046	27th Jan. 1848	William Henry Barlow.
<b>VI.—Locomotive and Steam Carriages.</b>			
Constructing carriages for railroads - - -	3959	14th Nov. 1815	Joseph De Baader.
Construction of wheel carriages to be moved by steam, heated air, or vapours.	3973	9th Jan. 1816	Joseph Reynolds.
Construction of machines and railway-carriages, to facilitate the conveyance of goods and materials along railways and tramways - - - - -	4067	30th Sept. 1816	{ William Losh. George Stephenson.
Construction of railway carriages - - - - -	4616	22nd Nov. 1821	Henry Robinson Palmer.
Steam-carriages capable of conveying goods and passengers on common roads without horses [ <i>locomotive-carriages</i> ].	4630	20th Dec. 1821	Julius Griffith.
Construction of steam carriages for the conveyance of passengers and goods on highways and turn-pike roads.	4957	15th May 1824	William Henry James.
Construction of carriages or other machines to be moved or propelled by mechanical means [ <i>by vibrating legs, having brushes at their extremities</i> ].	5056	18th Dec. 1824	David Gordon.
Wheel-way and its carriage or carriages, for the conveyance of passengers, merchandise, and other things along roads, rail and other ways, either on a level or inclined plane;—applicable to other purposes.	5060	18th Dec. 1824	William Francis Snowden.
Locomotive or steam carriage for the conveyance of mails, passengers, and goods [ <i>on ordinary roads</i> ] }	5090	3rd Feb. 1825	{ Timothy Burstall. John Hill.
Construction of carriages to be employed on railways.	5117	5th March 1825	William Henry James.
Construction of carriages to be employed on railways or elsewhere.	5148	12th April 1825	Robert William Brandling.
Carriages to be used on railways - - - - -	5180	10th May 1825	Thomas Hill.
Locomotive or steam carriages - - - - -	5267	13th Oct. 1825	Josiah Easton.
Carriage to be worked or propelled by means of steam.	5450	15th Jan. 1827	James Neville.
Construction of waggons for railways or tramways -	5540	14th Aug. 1827	William Chapman.
Locomotive-engines and the apparatus connected therewith [ <i>carriages to run on ordinary roads</i> ].	5554	11th Oct. 1827	Goldsworthy Garney.
Carriages connected with steam-boilers - - -	5862	2nd Nov. 1829	James Viney.
Construction of and machinery for locomotive-carriages.	5950	1st July 1830	John Henry Clive.
Steam-carriages - - - - -	5956	19th July 1830	{ John Rawe, junior. John Boase.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Locomotive carriages - - - - -	5991	31st Aug. 1830	John Hanson.
Locomotive and other carriages or machines, } applicable to rail and other roads - - - }	6027	4th Nov. 1830	{ Thomas Bramley. Robert Parker.
Apparatus to be employed in the transportation of goods or passengers [ <i>locomotive steam-carriage</i> ].	6220	9th Feb. 1832	William Church.
Construction of steam-carriages; machinery for pro- pelling the same.	6297	15th Aug. 1832	William Henry James.
Steam-carriages - - - - -	6318	29th Sept. 1832	{ Joseph Gibbs. Augustus Applegath.
Construction of coaches, waggon, or other carriages for conveying goods and passengers, to be pro- pelled by steam or other motive-power.	6377	29th Jan. 1833	John Reedhead.
Engines and other machinery used in the construc- tion of steam-carriages - - - - - }	6388	21st Feb. 1833	{ Luke Hebert. James Don.
Machinery or apparatus to be employed in the transportation of goods or passengers [ <i>locomotive steam-carriage</i> ].	6469	7th Sept. 1833	William Church.
Steam-carriages;—applicable to other purposes -	6494	28th Oct. 1833	David Redmund.
Locomotive steam-carriages - - - - -	6550	25th Jan. 1834	Benjamin Hick.
Constructing and forming vehicles to be propelled by a certain motive principle.	6585	29th March 1834	John Cooper Douglas.
Locomotive machines or carriages - - - - -	6588	31st March 1834	George Millichap.
Locomotive steam-carriages - - - - -	6689	8th Oct. 1834	Benjamin Hick.
Railway-carriages;—applicable to other purposes -	6781	4th March 1835	Thomas Fleming Bergin.
Locomotive steam-carriages - - - - -	6785	11th March 1835	Joshua Butters Bacon.
Suspending and adjusting the bodies of railway- carriages.	6849	27th May 1835	Thomas Fleming Bergin.
Locomotive steam-carriages - - - - -	6955	16th Dec. 1835	William Carpmæl.
Improvements applicable to locomotive-carriages -	6957	16th Dec. 1835	William Coles.
Improvements applicable to railway-carriages -	6989	23rd Jan. 1836	Henry Booth.
Locomotive-carriages - - - - -	7069	23rd April 1836	George Augustus Kollman.
Railway and other locomotive-carriages - - -	7070	23rd April 1836	Edward John Massey.
Locomotive and other carriages - - - - -	7191	22nd Sept. 1836	{ Henry Van Wart. Samuel Aspinall God- dard.
Locomotive-carriages - - - - -	7217	8th Nov. 1836	James Elnathan Smith.
Improvements applicable to carriages to be used on railways;—applicable to other purposes.	7513	19th Dec. 1837	Edmund Butler Rowley.
Carriages used on railways - - - - -	7563	8th Feb. 1838	Jerome Deville.
Carriages to be used with locomotive-engines and otherwise.	7703	25th June 1838	George Holworthy Palmer.
Construction of carriages to be used on railways -	7784	25th Aug. 1838	John Coope Haddan.
Carriages to be used on tramways or railways -	7809	13th Sept. 1838	Thomas Wilkinson.
Carriages used on railroads - - - - -	7852	3rd Nov. 1838	Jerome Deville.
Construction of railway-carriages - - - - -	7862	26th Nov. 1838	Abraham Cohen.
Locomotive-carriages - - - - -	7968	14th Feb. 1839	Frederick Cayley Worsley.
Combination of machinery for locomotive-carriages, rendering the load applicable as part of the moving power.	7993	6th March 1839	John Clark.
Railroad-carriages - - - - -	8026	9th April 1839	Thomas Parkin.
Carriages to be worked by steam or other motive- power - - - - - }	8031	13th April 1839	{ Joseph Gillott. Thomas Walker.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Locomotive and other carriages - - - -	8200	17th Aug. 1839	George Augustus Kollman.
Improvements applicable to railway-carriages -	8299	4th Dec. 1839	James Nasmyth.
Constructing carriages for railroads - - -	8331	1st Jan. 1840	John Leo Nicolas.
Construction of locomotive-carriages - - -	8495	5th May 1840	Frank Hills.
Carriage used for the conveyance of passengers on railways; seats for such carriages;—applicable to other purposes.	8626	10th Sept. 1840	Henry Houldsworth.
Carriages employed on railroads - - - -	8659	15th Oct. 1840	Robert Pettit.
Carriages to be worked on railroads - - -	8699	12th Nov. 1840	Eugenius Birch.
Carriages to be used on railways; machinery for their construction.	8741	16th Dec. 1840	Joseph Beattie.
Locomotive-carriages - - - - -	8750	23rd Dec. 1840	George Thornton.
Wheel carriages for rail and other roads - -	8755	28th Dec. 1840	John Buchanan.
Construction of carriages used on railways - -	8819	28th Jan. 1841	William Gall.
Locomotive-carriages - - - - -	8831	3rd Feb. 1841	Joseph Bunnett.
Certain improvements applicable to railway-carriages	8900	22nd March 1841	Thomas Wright.
Construction of carriages used on railroads [ <i>forming the panels of papier-mâché</i> ].	8957	11th May 1841	Edmund Tayler.
Railway-carriages - - - - -	9261	15th Feb. 1842	{ Thomas Russell Cramp- ton. John Coope Haddan.
Construction of wheels for carriages [ <i>also railway-carriages</i> ].	9291	10th March 1842	Henry Smith.
Railway and other carriages - - - - -	9473	16th Sept. 1842	William Henry James.
Construction of railway and other carriages; apparatus connected therewith.	9526	25th Nov. 1842	Pandis Theodore Ralli.
Locomotive-carriages - - - - -	9684	30th March 1843	Frank Hills.
Carriages to be used on railways - - - - -	9702	20th April 1843	John George Bodmer.
Construction of carriages to run on tramroads -	9727	16th May 1843	{ John Lucena Ross Kettle. William Prosser, junior.
Locomotive-carriages - - - - -	9904	27th June 1843	Richard Waller.
Railway-carriages - - - - -	9969	17th Aug. 1843	Frederick Lipscombe.
Construction of railway-carriages - - - -	10,145	18th April 1844	Edgar Heale.
Railway and other carriages - - - - -	10,173	7th May 1844	Joseph Wright.
Carriages to be used on railways - - - - -	10,243	3rd July 1844	John George Bodmer.
Machinery or apparatus connected with carriages to run on railways and tramways.	10,394	14th Nov. 1844	Isaac Farrell.
Locomotive carriages or waggons running on railways or common roads, for the prevention of accidents.	10,601	7th April 1845	Edward Bury.
Steam-carriage - - - - -	10,852	6th Oct. 1845	Gabriel Hippolyte Moreau.
Construction of carriages for railways - - -	10,894	23rd Oct. 1845	William Coles Fuller.
Railway-carriages for the security and convenience of the public.	10,901	31st Oct. 1845	Robert William Brand- ling.
Carriages to be used on rail and other roads - -	10,957	18th Nov. 1845	Henry Buckworth Powell.
Construction of railway-carriages - - - -	11,026	6th Jan. 1846	Conrad Haverkam Green- how.
Locomotive-carriages intended to be used on ordinary roads.	11,040	15th Jan. 1846	Edmund Leahy.
Railway-carriages - - - - -	11,048	20th Jan. 1846	Richard Archibald Broo- man.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Construction of railway-carriages - - - -	11,068	31st Jan. 1846	Andre Etienne.
Construction of railway-carriages and conveyances -	11,184	11th March 1846	{ Henry Austin. Joseph Quick.
Construction of carriages to be used on railways -	11,216	22nd May 1846	Hugh Greaves.
Locomotive and other carriages - - - -	11,234	2nd June 1846	{ William Stubbs. John Isiah Grylls.
Railway-carriages - - - - -	11,237	4th June 1846	Joseph Clinton Robertson.
Railway-carriages - - - - -	11,295	14th July 1846	Sir Samuel Brown, Knt.
Railway-carriages - - - - -	11,318	30th July 1846	{ Robert Mallet. John Somers Dawson.
Railway-carriages - - - - -	11,352	26th Aug. 1846	Henry Bessemer.
Railway-carriages - - - - -	11,361	31st Aug. 1846	Henry Henson.
Propelling carriages on railways [ <i>improvements in carriages</i> ].	11,472	2nd Dec. 1846	William Johnson.
Locomotive-carriages - - - - -	11,485	14th Dec. 1846	Elijah Galloway.
Apparatus connected with railway-carriages - -	11,533	16th Jan. 1847	Henry Grafton.
Carriages to be used upon railways, partly applicable to other roads - - - - }	11,594	24th Feb. 1847	{ John Low. James Simpson.
Railway-carriages - - - - -	11,618	10th March 1847	Thomas Waterhouse.
Carriages to be employed on railways - - - -	11,631	23rd March 1847	Charles Fox.
Carriages to run on railways - - - - -	11,642	29th March 1847	John Henry Griesbach.
Parts of carriages for railways; machinery for manufacturing the same.	11,648	6th April 1847	Benjamin Tucker Stratton.
Construction of carriages [ <i>railway-carriages</i> ] - -	11,675	27th April 1847	Alfred Vincent Newton.
Construction of carriages to be used upon railways -	11,715	24th May 1847	{ William Bridges Adams. Robert Richardson.
Construction of railway-carriages - - - - -	11,732	3rd June 1847	Samuel Benjamin Edward Berger.
Construction of carriages to be used on railways -	11,733	3rd June 1847	George Taylor.
Improvements applicable to carriages used on railways.	11,740	12th June 1847	William Beckett Johnson.
Railway-carriages - - - - -	11,748	15th June 1847	John Lane.
Railway-carriages - - - - -	11,751	15th June 1847	Alexander Symons.
Improvements applicable to locomotive-carriages employed on railways.	11,793	13th July 1847	Alfred Vincent Newton.
Carriages to be used on railways - - - - -	11,809	20th July 1847	William Burch.
Railway-carriages; apparatus connected with such carriages.	11,847	2nd Sept. 1847	Charles Chabot.
Locomotive-carriages - - - - -	11,885	7th Oct. 1847	James Pearson.
Carriages used on railways - - - - -	12,013	5th Jan. 1848	Charles De Bergue.
Construction of carriages for conveyance of sheep and other animals on railways.	12,063	10th Feb. 1848	William Jeary Cannon.
Construction of railway-carriages - - - - -	12,082	8th March 1848	Theodorus Cornelius Seegers.
Railway-carriages and waggons - - - - -	12,122	15th April 1848	Henry Henson Henson.
Improvements in railway or other carriages, partly consisting of new modes of constructing the axle-boxes and journals of wheels.	12,143	2nd May 1848	William John Normanville.
Locomotive apparatus;—in part applicable to other motive-machinery.	12,145	2nd May 1848	Isiah Davies.
Construction of vehicles used on railways - - -	12,170	1st June 1848	Richard Christopher Mansell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Railway-carriages - - - - -	12,344	29th Nov. 1848	{ John Lane. John Taylor.
Construction of vehicles used on railways or other roads and ways.	12,369	16th Dec. 1848	William Wharton.
Railway-carriages, and certain of their appurtenances.	12,492	28th Feb. 1849	Perceval Moses Parsons.
Obtaining and applying motive-power [ <i>a carriage and locomotive combined</i> ] - - - - -	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Railway-carriages - - - - -	12,528	19th March 1849	George Knox.
Railway-carriages - - - - -	12,661	14th June 1849	Henry Henson Henson.
Construction of railway-carriages - - - - -	12,670	25th June 1849	{ Thomas Merchant. Robert Harland.
Construction of carriages or other vehicles to be worked or propelled by means of rotatory engines or by other motive-power.	12,810	12th Oct. 1849	Cornelius Bonell.
Railway-carriages - - - - -	12,878	5th Dec. 1849	Samuel Fisher.
Construction of railway-carriages - - - - -	13,073	7th May 1850	George Robbins.
Railway-carriages - - - - -	13,102	5th June 1850	Edmund Sharpe.
Machinery or apparatus applicable to all kinds of carriages used on railways.	13,123	11th June 1850	Samuel Ellis.
Construction of locomotive-carriages - - - - -	13,179	17th July 1850	John Melville.
Railway and other carriages - - - - -	13,506	11th Feb. 1851	Benjamin Heywood.
Railway-carriages - - - - -	13,546	10th March 1851	Henry Alfred Jowett.
Railway and other carriages; manufacture of papier-mâché for making carriages and other articles.	13,603	26th April 1851	John Coope Haddan.
Railway and other carriages - - - - -	13,606	26th April 1851	Jonathan Wragg.
Carriages used on railways - - - - -	13,618	3rd May 1851	William Smith.
Construction of locomotive-carriages;—applicable to other purposes.	13,653	3rd June 1851	William Bridges Adams.
Locomotive-carriages;—partly applicable to other similar purposes.	13,705	31st July 1851	Charles Cowper.
Improvements applicable to railway-carriages - -	13,760	2nd Oct. 1851	James Warren.
Carriages used on railways; machinery by which some of the improvements are effected.	13,782	22nd Oct. 1851	Joseph Beattie.
Railway and other carriages - - - - -	13,873	14th Feb. 1852	{ Arthur Wellington Callen. John Onions.
Construction of railway-carriages;—partly applicable to carriages on common roads.	14,018	8th March 1852	Paul Rapsey Hodge.
Construction of vehicles used on railroads and ordinary roads [ <i>panels and mouldings</i> ].	14,036	24th March 1852	William Pidding.
Railway rolling-stock; machinery for manufacturing the same [ <i>fittings of railway-carriage seats</i> ].	14,089	24th April 1852	Richard Christopher Mansell.
Rolling-stock or apparatus used on rail, tram, or other roads.	14,096	29th April 1852	Peter Bruff.
Rolling-stock of rail, tram, or other roads - -	14,097	29th April 1852	James Fletcher.
Construction of railway-carriages - - - - -	14,177	24th June 1852	Claude Arnoux.
Railway-carriages and their appurtenances; machinery for producing parts of the same.	14,189	24th June 1852	John M'Conochie.
Construction of vehicles [ <i>railway-vehicles</i> ] - -	14,258	12th Aug. 1852	Melchior Colson.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
<b>VII.—Wheels, Axles, Axletrees, and Boxes.</b>			
Construction of railway-wheels to facilitate the conveyance of carriages, goods, and materials, along railways and framings - - - - -	4067	30th Sept. 1816	{ William Losh. George Stephenson.
Railways [and wheels] - - - - -	5117	5th March 1825	William Henry James.
Construction, use, and application of wheels [for annular railways].	5280	7th Nov. 1825	George Hunter.
Axletrees to remedy the extra friction on curves, to waggons, carts, cars, and carriages used on railways, tramways, and other public roads.	5325	23rd Jan. 1826	Robert Stephenson.
Diminishing friction in wheeled carriages to be used on railroads.	5798	30th May 1829	Ross Winans.
Construction of wheels for carriages to be used on railways.	5989	31st Aug. 1830	William Losh.
Axles and parts which form the bearings at the centre of wheels for carriages to travel on edge railways.	6092	11th March 1831	Robert Stephenson.
Constructing wheels for railway-carriages - - -	6111	30th April 1831	George Stephenson.
Wheels of steam-carriages;—applicable to other purposes.	6719	20th Nov. 1834	Robert Whiteside.
Wheels for carriages [making cast-iron wheels for railway-carriages].	6880	14th Aug. 1835	John Day.
Making and constructing wheels for railway-carriages - - - - -	7089	10th May 1836	{ Richard Waddington. John Hardman.
Wheels or other parts of carriages to be worked on tramroads or railways.	7252	9th Dec. 1836	John Yates.
Construction of wheels for railway and other carriages.	7497	5th Dec. 1837	George Cottam.
Manufacturing wheels applicable to locomotive engines, tenders, and carriages; apparatus for constructing the same.	7671	21st Feb. 1838	Jeremiah Grime.
Construction of wheels to be used upon railroads and other roads;—applicable to the construction of wheels in general - - - - -	7795	6th Sept. 1838	{ John Frederick Bourne. John Bartley, junior.
Wheels for railroad-carriages - - - - -	8026	9th April 1839	Thomas Parkin.
Construction and manufacture of wheels to be used on railways, and which wheels, without a flange, may be used on turnpike roads - - -	8219	16th Sept. 1839	{ Isaac Dodds. William Owen.
Construction of wheels of carriages to be used on railways - - - - -	8243	17th Oct. 1839	{ John Coope Haddan. George Hawks.
Wheels to be used on railways and other ways -	8504	12th May 1840	Henry Dircks.
Wheels to be used on railways - - - - -	8520	28th May 1840	Daniel Gooch.
Carriage-wheels for railways - - - - -	8595	7th Aug. 1840	Andrew Smith.
Wheels employed on railroads - - - - -	8659	15th Oct. 1840	Robert Pettit.
Wheels for use upon railways; machinery for their construction.	8741	16th Dec. 1840	Joseph Beattie.
Construction of wheel carriages and of certain appendages thereto [fixing axletrees; applying washers to axletrees; making spring wheels].	8756	28th Dec. 1840	William Bridges Adams.
Construction of compound axles for use on railroads.	8957	11th May 1841	Edmund Tayler.
Manufacture of railway-wheels - - - - -	9009	26th June 1841	William Losh.
Constructing wheels for railway and other carriages	9015	2nd July 1841	Henry Phipps.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Wheels for railway purposes - - - - -	9017	7th July 1841	George Onions.
Construction of railway axles and wheels - -	9200	21st Dec. 1841	John Oliver York.
Railway-carriages [ <i>employing papier-mâché in the construction of railway-wheels</i> ] - - - - }	9261	15th Feb. 1842	{ Thomas Russell Crampton. John Coope Haddan.
Construction of iron wheels for railway and other carriages.	9274	4th March 1842	Edward Slaughter.
Construction of roofs and other parts of buildings; application of corrugated plates of metal to certain purposes for which they have not heretofore been used [ <i>for making railway and other wheels</i> ].	9332	26th April 1842	Henry Robinson Palmer.
Construction of wheels for railway carriages and engines.	9335	28th April 1842	William Losh.
Construction of wheels and tires of wheels for railways.	9390	13th June 1842	Thomas Banks.
Wheels and axletrees to be used on railways - -	9437	3rd Aug. 1842	John Lee.
Manufacture of axles for railway-wheels - - -	9435	8th Oct. 1842	John Oliver York.
Construction and arrangements of axles and axletrees, for carriages, carts, and other vehicles used on rail and other roads.	9548	8th Dec. 1842	William Edward Newton.
Construction of wheels to run on railways - - -	9580	29th Dec. 1842	Baron Victor De Wydroff.
Construction of boxes for the axles or axletrees of locomotive engines and carriages.	9724	15th May 1843	William Edward Newton.
Axles [ <i>railway-axles</i> ] - - - - -	9887	5th Oct. 1843	John George Briggs.
Manufacture of tires of railway and other wheels; manufacture of railway and other axles.	9894	5th Oct. 1843	Jonathan Saunders.
Wheels for locomotive-carriages - - - - -	10,115	20th March 1844	André Drouet De Charlieu.
Manufacture of railway and other axles, shafts, and bars.	10,181	14th May 1844	Edward Hill.
Constructing wheels for railways - - - - -	10,609	14th April 1845	John Coope Haddan.
Manufacture of wheels for railways, and axle-guards for railway carriages.	10,808	7th Aug. 1845	Henry Smith.
Wheels for railway-carriages - - - - -	10,932	11th Nov. 1845	Bryan Donkin.
Wheels and axles of engines, tenders, carriages, and waggons to be used on railways.	10,950	20th Nov. 1845	Ernest Edge.
Construction and application of railroad-carriage wheels.	11,028	6th Jan. 1846	Joseph Romuald Bozek.
Propelling carriages on railways [ <i>constructing railway-wheels</i> ].	11,114	27th Feb. 1846	John Samuel Templeton.
Locomotive steam-engines; machinery and apparatus connected therewith [ <i>railway wheels and axles</i> ].	11,199	7th May 1846	Thomas Melling.
Construction of carriages to be used on railways [ <i>also wheels and axles</i> ].	11,216	22nd May 1846	Hugh Greaves.
Wheels to be used on rail and other roads;—applicable to mill-gearing and other purposes.	11,314	27th July 1846	Robert Heath.
Manufacture of cast-metal wheels for railway and various other carriages.	11,433	3rd Nov. 1846	George W. Eddy.
Construction of wheel carriages, and engines moved or retarded by animal or mechanical agency;—partly applicable to other like purposes [ <i>axle-boxes for railway carriages</i> ].	11,445	12th Nov. 1846	William Bridges Adams.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Railway-wheels - - - - -	11,463	1st Dec. 1846	Henry Bridges.
Railway-wheels, and apparatus connected with railway carriages.	11,533	16th Jan. 1847	Henry Grafton.
Carriages to run on railways [ <i>and making axles</i> ] -	11,642	29th March 1847	John Henry Griesbach.
Wheels and other parts of carriages for railways; machinery for manufacturing parts of the same.	11,848	6th April 1847	Benjamin Tucker Stratton.
Construction and manufacture of wheels for railway and other carriages.	11,889	4th May 1847	Joseph Taylor.
Construction of carriages to be used on railways [ <i>and axles</i> ].	11,733	3rd June 1847	George Taylor.
Wheels of railway carriages - - - - -	11,771	29th June 1847	Frederick Chaplin.
Railway-carriages and apparatus connected with such carriages [ <i>mounting the axle-boxes</i> ].	11,847	2nd Sept. 1847	Charles Chabot.
Wheels for railway and other carriages - - -	11,927	28th Oct. 1847	Edward Evans.
Manufacturing railway wheels and axles - -	11,934	2nd Nov. 1847	Thomas Dunn.
Carriages used on railways [ <i>axle-guards and axle-boxes</i> ].	12,013	5th Jan. 1848	Charles De Bergue.
Arrangement of wheels and axles for steam and other carriages, which facilitates travelling on railways and other roads;—partly applicable to other machinery.	12,017	7th Jan. 1848	George Bell.
Construction and manufacture of wheels for railways; preparing and constructing the tires used thereon.	12,094	11th March 1848	John Ashbury.
Manufacture of railway-wheels - - - - -	12,123	15th April 1848	Thomas Forsyth.
Manufacture of parts of railway-wheels - - -	12,124	15th April 1848	{ Charles Green. James Newman.
Manufacturing wheels for railways - - - -	12,125	15th April 1848	{ Richard Madigan. John Coope Haddan.
Improvements in railway or other carriages, partly consisting of new modes of constructing the axle-boxes and journals of wheels.	12,143	2nd May 1848	William John Normanville.
Wheel for railway purposes - - - - -	12,177	6th June 1848	Benjamin Lathrop.
Manufacture of railway-wheels - - - - -	12,210	11th July 1848	Matthew Kirtley.
Manufacture of railway-wheels - - - - -	12,266	5th Sept. 1848	Henry Smith.
Construction of railway-wheels - - - - -	12,384	21st Dec. 1848	{ William Baker. John Ramsbottom.
Railway-wheels - - - - -	12,404	5th Jan. 1849	John Coope Haddan.
Construction of wheels [ <i>railway-wheels</i> ] - -	12,413	11th Jan. 1849	William Edward Newton.
Railway-carriages [ <i>and wheels</i> ] - - - - -	12,528	19th March 1849	George Knox.
Manufacture of railway-wheels - - - - -	12,539	28th March 1849	{ Charles Green. James Newman.
Construction of bearings of railway-engines and railway and other carriages.	12,563	13th April 1849	Gaspard Brandt.
Manufacturing railway and other axles and wheels; machinery to be employed for such purpose [ <i>construction of smiths' hearths for welding the spokes of railway-wheels on to the tire or inner rim thereof</i> ].	12,583	24th April 1849	William Kilner.
Manufacturing railway tires, axles, and other iron where great strength and durability are required.	12,672	26th June 1849	George Benjamin Thorneycroft.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Manufacture of wheels [ <i>railway-wheels</i> ] - - -	12,839	10th Nov. 1849	Enoch Chambers.
Axles and axle-boxes of locomotive-engines and other railway-carriages.	12,862	24th Nov. 1849	Joseph Barrans.
Manufacture of the bearings of the axles of railways [ <i>axletree-boxes for carriages</i> ].	12,876	3rd Dec. 1849	Baron James Ulric Vaucher De Strubing.
Wheels of locomotive carriages - - -	12,877	3rd Dec. 1849	George Edmund Donisthorpe.
Railway wheels and axles - - -	12,878	5th Dec. 1849	Samuel Fisher.
Railway axles and boxes - - -	13,492	5th Feb. 1851	Angier March Perkins.
Wheels and axles [ <i>for railways</i> ] - - -	13,598	24th April 1851	William Andrews.
Construction of roads and ways for the transit of passengers, materials, and goods, locomotive-engines and carriages;—partly applicable to other like purposes [ <i>construction of railway-carriage wheels</i> ].	13,653	3rd June 1851	William Bridges Adams.
Railway-axles;—partly applicable to stationary and marine steam-engines.	13,729	28th Aug. 1851	James Edward M'Connell.
Forming or covering roads and other surfaces [ <i>covering wheels to prevent concussion</i> ].	13,765	9th Oct. 1851	Sir John Scott Lillie.
Carriages used on railways; machinery by which some of the improvements are effected [ <i>also railway-wheels</i> ].	13,782	22nd Oct. 1851	Joseph Beattie.
Axle-boxes for railway carriages - - -	13,789	23rd Oct. 1851	Moses Poole.
Grease-boxes and axle-boxes and appendages for railway engines and carriages.	13,797	4th Nov. 1851	Henry Vigers.
Manufacture of malleable metals into railway-wheels and other analogous forms which are capable of being dressed, turned down, or polished in a lathe.	13,848	8th Dec. 1851	Perry G. Gardiner.
Construction of railway-carriages;—partly applicable to carriages on common roads [ <i>also wheels and axle-boxes</i> ].	14,018	8th March 1852	Paul Rapsey Hodge.
Construction of vehicles used on railroads and ordinary roads [ <i>also wheels and axles for carriages</i> ].	14,036	24th March 1852	William Pidding.
Railway rolling-stock; machinery for manufacturing the same [ <i>railway wheels and tires, and combining axles, axle-boxes, and wheels</i> ].	14,089	24th April 1852	Richard Christopher Mansell.
Rolling-stock or apparatus used on rail, tram, or other roads [ <i>wheel-tire</i> ].	14,096	29th April 1852	Peter Bruff.
Construction of railway-carriages [ <i>and axles</i> ] - -	14,177	24th June 1852	Claude Arnoux.
Railways, and materials and apparatus employed therein or connected therewith [ <i>railway-wheels with tubular spokes</i> ].	14,182	24th June 1852	James Edward M'Connell.
Railway-carriages and their appurtenances; machinery for producing parts of the same [ <i>tubular metallic axles</i> ].	14,189	24th June 1852	John M'Conochie.
<b>VIII.—Buffers and Springs.</b>			
Construction of wheel carriages and of certain appendages thereto [ <i>applying a bar with buffer-heads to railway-carriages; also springs</i> ].	8753	28th Dec. 1840	William Bridges Adams.
Buffing apparatus for railway purposes - - -	6625	1st Feb. 1841	William Wilkinson Taylor.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Apparatus for giving elasticity to parts of railway and other carriages.	9515	8th Nov. 1842	John Spinks, junior.
Means of preventing accidents to carriages on railways and common roads [ <i>buffing apparatus</i> ].	10,571	18th March 1845	Henry Samuel Rayner.
Springs and elastic power as applicable to railway-carriages, and to other vehicles and purposes -	10,750	3rd July 1845	{ George Mills. Thomas Walker.
Springs for railway and other carriages - - -	10,808	7th Aug. 1845	Henry Smith.
Construction of carriages for railways [ <i>india-rubber buffer and other springs</i> ].	10,894	23rd Oct. 1845	William Coles Fuller.
Apparatus to be applied to railway-carriages to reduce the effects of collisions.	11,071	3rd Feb. 1846	Edwin Cheshire.
Construction of wheel carriages and engines moved or retarded by animal or mechanical agency;—partly applicable to other like purposes [ <i>railway buffers and springs</i> ].	11,445	2nd Nov. 1846	William Bridges Adams.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of springs for railway carriages and buffers</i> ] - - -	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Carriages to be used upon railways;—partly applicable to other roads [ <i>springs</i> ] - - -	11,594	24th Feb. 1847	{ John Low. James Simpson.
Railway-carriages [ <i>disc-buffer</i> ] - - -	11,715	24th May 1847	William Bridges Adams.
Buffing and traction apparatus and springs for railway and other carriages [ <i>applying vulcanized india-rubber rings to such apparatus</i> ].	11,815	26th July 1847	Charles De Bergue.
Atmospheric-buffer to be applied to carriages and other vehicles travelling on railways.	11,843	19th Aug. 1847	James Webster.
Buffers for railway carriages - - -	11,847	2nd Sept. 1847	Charles Chabot.
Air-spring and atmospheric resisting power - -	12,200	6th July 1848	George Beattie.
Construction of buffers - - -	12,327	16th Nov. 1848	Alexander Balfour.
Supporting pressure, resisting strain, and protecting against fire - - -	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Railway-carriages [ <i>and buffers</i> ] - - -	12,528	19th March 1849	George Knox.
Buffers for railway purposes - - -	12,828	2nd Nov. 1849	Michael John Haines.
Manufacture of elastic mattresses;—partly applicable to other purposes where sudden or continuous pressure is required to be sustained or transmitted [ <i>applicable to buffer and suspension springs for railway and other carriages</i> ].	12,874	3rd Dec. 1849	Joseph Paradis.
Buffer and draw springs for railway-carriages -	12,878	5th Dec. 1849	Samuel Fisher.
Improvements partly applicable to the connecting links or chains of railway-carriages, and to other purposes where tension combined with a certain degree of elasticity is required [ <i>buffer-springs</i> ].	12,953	29th Jan. 1850	Francis Edward Colegrave.
Buffers for railway purposes - - -	13,043	15th April 1850	Charles De Bergue.
Buffers - - -	13,272	4th Oct. 1850	Julian Bernard.
Railway-buffers - - -	13,649	29th May 1851	William Crane Wilkins.
Construction of roads and ways for the transit of passengers, materials, and goods, locomotive-engines and carriages;—partly applicable to other like purposes [ <i>buffers for locomotive-engines; covering springs for railway-carriages</i> ].	13,653	3rd June 1851	William Bridges Adams.
Sustaining travelling-carriages and other articles;—applicable to other like purposes [ <i>springs for railway and other carriages</i> ].	13,710	5th Aug. 1851	Levi Bissell.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Buffers and springs and appendages to railway engines and carriages.	13,797	4th Nov. 1851	Henry Vigurs.
Springs of railway-carriages, trucks, and waggons [ <i>rings of vulcanized india-rubber for buffer, bearing, and draw springs</i> ].	13,951	2nd Feb. 1852	George Spencer.
Construction of railway-carriages;—partly applicable to carriages on common roads [ <i>steam spring and lifting apparatus for railway-carriages</i> ].	14,018	8th March 1852	Paul Rapsey Hodge.
Application of india-rubber and gutta-percha, and of compounds thereof [ <i>to produce spring bearings</i> ].	14,193	28th June 1852	James Edward Coleman.
<b>IX.—Connecting and detaching Carriages.</b>			
Railways [ <i>connecting trains</i> ] - - - - -	5117	5th March 1825	William Henry James.
Method of attaching railway-carriages together, to obtain steadiness and smoothness of motion.	6961	16th Dec. 1835	Henry Booth.
Method of forming railway-carriages into trains -	7784	25th Aug. 1838	John Coope Haddan.
Connecting and retarding railway-trains - - -	7882	26th Nov. 1838	Abraham Cohen.
Mechanism applicable to carriages to be used on railways [ <i>mode of connecting engines, carriages, or trains</i> ].	7911	17th Dec. 1838	John Hawkshaw.
Mode of resisting shocks to railway carriages and trains; connecting or disconnecting railway-carriages.	8521	28th May 1840	William Henry Smith.
Detaching locomotive and other carriages - - -	8712	24th Nov. 1840	Francis Pope.
Connecting and disconnecting locomotive-engines and railway-carriages.	8927	17th April 1841	Peter Kendall.
Machinery for connecting and disconnecting the steam-engine or other motive-power, with or from the load or matter to be driven or moved.	10,814	9th Aug. 1845	Peter Higson.
Apparatus for connecting and disconnecting railway-carriages.	11,693	6th May 1847	Moses Poole.
Apparatus to be applied to railway carriages and engines [ <i>elastic screw couplings</i> ].	12,000	22nd Dec. 1847	Richard Wrighton.
Machinery for connecting railway-carriages - -	12,138	27th April 1848	Daniel Rice Pratt.
Connecting railway-carriages or waggons together -	12,231	7th Aug. 1848	{ Samuel Thornton. James Edward McCon- nell.
Construction of railway-carriages [ <i>coupling car- riages together</i> ] - - - - -	12,670	25th June 1849	{ Thomas Merchant. Robert Harland.
Couplings for carriages; attachment of wheels to axles.	13,084	28th May 1850	Alfred Vincent Newton.
Construction of roads and ways for the transit of passengers, materials, and goods, locomotive-engines and carriages;—partly applicable to other like purposes [ <i>connecting and disconnecting tenders</i> ].	13,653	3rd June 1851	William Bridges Adams.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
<b>X.—Railway-breaks; adhesion of Wheels to Rails; preventing Carriages running off the Line.</b>			
Improvements applicable to railway-carriages [ <i>stopping the engine or train by means of drags put in action by the momentum of the entire train</i> ].	8299	4th Dec. 1839	James Nasmyth.
Retarding and stopping railway-trains [ <i>by electro or other magnetism</i> ].	8199	7th May 1840	Henry Montague Grover.
Working railway and other carriages in order to stop them, and preventing them from running off the rails.	8673	2nd Nov. 1840	James Boydell, junior.
Construction of wheel carriages and of certain appendages thereto [ <i>railway breaks and guards</i> ].	8756	28th Dec. 1840	William Bridges Adams.
Checking or stopping railroad-carriages under certain circumstances.	8777	6th Jan. 1841	Henry Bessemer.
Apparatus for retarding and stopping railway-carriages.	8961	20th May 1841	John Carr, junior.
Construction of breaks for carriages [ <i>for railway-carriages</i> ].	9291	10th March 1842	Henry Smith.
Construction of break apparatus applicable to railway-carriages.	9355	23rd May 1842	John Bishop.
Stopping railway-carriages - - - - -	9398	21st June 1842	John Dickson.
Retarding and stopping carriages on railways - -	9421	16th July 1842	Robert Benton.
Machinery for stopping on or preventing carriages from running off railways, which improvements may also be applied to other carriages and machinery.	9437	3rd Aug. 1842	John Lee.
Apparatus for preventing engines and carriages from going off railways; removing obstructions on railways - - - - -	9604	26th Jan. 1843	{ Francis McGetrick. Matthew Bailey Tennant.
Hydrostatic engine [ <i>railway-break</i> ] - - -	9869	17th Aug. 1843	Frederick Lipscombe.
Improvements applicable to the increasing the adhesion of the wheels of railway engines, carriages, and tenders, upon the lines of rail, when the same are in a moist state.	10,112	19th March 1844	Hugh Inglis.
Machinery for stopping or retarding railway and other carriages;—applicable also to engines and wheels.	10,514	10th Feb. 1845	Frederick Herbert Maberly.
Apparatus to be attached to and employed in connection with railway-carriages.	10,892	23rd Oct. 1845	Thomas Woradell, junior.
Machinery for arresting the progress of railway carriages and trains.	10,908	31st Oct. 1845	Dalrymple Crawford.
Propelling carriages on railways [ <i>also retarding carriages</i> ].	11,114	27th Feb. 1846	John Samuel Templeton.
Machinery for obtaining and applying, accelerating and retarding, motive-power [ <i>breaks for carriages</i> ] - - - - -	11,442	5th Nov. 1846	{ Frederick Herbert Maberly. Thomas Branwhite. Dennis Lusher.
Construction of wheel carriages, and engines moved or retarded by animal or mechanical agency;—partly applicable to other like purposes [ <i>railway-breaks</i> ].	11,445	2nd Nov. 1846	William Bridges Adams.
Working breaks on railways [ <i>by means of torsion rods</i> ].	11,849	2nd Sept. 1847	William Sykes Ward.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Applying and working friction-breaks to engines and carriages to be used on railways.	12,025	13th Jan. 1848	Robert Heath.
Improvements in stopping railway trains and other carriages, and generally where a lifting power or pressure is required.	12,029	18th Jan. 1848	Samuel Cunliffe Lister.
Breaks, and means of working them - - -	12,095	14th March 1848	Alexander Alliott.
Retarding engines and carriages on railways - -	12,231	7th Aug. 1848	{ Samuel Thornton. James Edward M'Connell
Railway-carriages [ <i>and drag-links</i> ] - - - -	12,528	19th March 1849	George Knox.
Construction of railway carriages [ <i>and construction of drags or breaks</i> ] - - - - -	12,670	25th June 1849	{ Thomas Merchant. Robert Harland.
Construction of railway-breaks - - - - -	12,779	20th Sept. 1849	{ William Handley. George Duncan. Alexander M'Glashan.
Method and machinery for arresting or checking the progress of locomotive-engines and other carriages.	12,924	11th Jan. 1850	Alfred Cooper.
Causing the driving-wheels of locomotive-engines to bite the rails.	13,163	3rd July 1850	Francis Edward Colegrave.
Application of magnetic power for stopping carriages and giving adherence to wheels on rails.	13,269	3rd Oct. 1850	Jean Pierre Paul Amberger.
Breaks for railway-carriages - - - - -	13,500	10th Feb. 1851	Richard Stuart Norris.
Railway-breaks - - - - -	13,546	10th March 1851	Henry Alfred Jowett.
Construction of roads and ways for the transit of passengers, materials, and goods, locomotive engines and carriages;—partly applicable to other like purposes [ <i>applying sledge-breaks to railway engines and carriages</i> ].	13,653	3rd June 1851	William Bridges Adams.
Retarding and stopping railway-carriages - -	13,697	22nd July 1851	Samuel Varley.
<b>XI.—Railway Transit;—clearing the Rails.</b>			
Facilitating the expense of carriage on railways and other roads - - - - -	3632	30th Dec. 1812	{ William Chapman. Edward Walton Chapman.
Dissolving snow and ice on tramways or railways, to facilitate the passage of engines and carriages thereon.	6079	21st Feb. 1831	Jeremiah Grime, junior.
Apparatus to facilitate the conveyance of mail-bags and other parcels on railways or roads.	7528	4th Jan. 1838	Nathaniel Worsdell.
Apparatus applicable to locomotion on railroads -	7730	11th July 1838	{ Henry Van Wart. Samuel Aspinwall Goddard.
Machinery and apparatus for facilitating travelling and transport on railways;—partly applicable to other purposes.	7792	31st Aug. 1838	Joseph Curtis.
Apparatus for clearing railway-rails - - -	8580	29th Dec. 1842	Baron Victor De Wydroff.
Locomotive applicable to railroads and other ways -	10,232	21st June 1844	Pierre Armand le Comte de Fontainemoreau.
Machinery for sweeping or cleaning streets, roads, or ways [ <i>attached to the front of a locomotive-engine, for clearing the rails of railways from dirt or snow</i> ].	10,317	12th Sept. 1844	Webster Flockton.
Means of propulsion and carriage on railways -	11,024	3rd Jan. 1846	Thomas Swinburne.
Railway transit - - - - -	11,406	8th Oct. 1846	William Price Struvé.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Transport and storage arrangements for the conveyance, management, and preservation of perishable articles on railways - - - - -	11,715	24th May 1847	{ William Bridges Adams. Robert Richardson.
Conveying goods and passengers on railroads -	11,918	21st Oct. 1847	James Neville.
<b>XII.—Signals; Communicating-apparatus; Steam-whistles.</b>			
Steam-whistles adapted for locomotive engines and boilers, and for other purposes.	8318	16th Dec. 1839	George Wilson.
Communicating-apparatus to be applied to railway-carriages.	8525	30th May 1840	William Pettitt.
Making signals by a self-acting apparatus, to be used on railways to obviate collisions.	8803	19th Jan. 1841	Charles Berwick Curtis.
Giving signals on railways - - - - -	9175	11th Dec. 1841	John Edwards.
Giving signals on railways - - - - -	9183	16th Dec. 1841	William Prowett.
Signals or method of giving signals, applicable to railways, &c.	10,905	31st Oct. 1845	Thomas Forsyth.
Conveying intelligence from one part of a railway-train to another.	10,936	11th Nov. 1845	George Hill Dutton.
Method of communication between railway-guards and engine-drivers.	10,989	10th Dec. 1845	George Mordey Mowbray.
Making signals and communication on railways, and between railway engines, carriages, and trains.	11,133	11th March 1846	John Banfield.
Railway and other signals - - - - -	11,589	8th Feb. 1847	Alexander Doull.
Railway-carriages [signal apparatus to be applied thereto].	11,618	10th March 1847	Thomas Waterhouse.
Improvements applicable to carriages used on railways [working signals or whistles by means of air passing through them into an exhausted receiver].	11,740	12th June 1847	William Beckett Johnson.
Giving signals on railways - - - - -	11,809	20th July 1847	William Burch.
Communicating motive-power applicable for working signals on railways; also communicating signals by the agency of voltaic electricity.	11,849	2nd Sept. 1847	William Sykes Ward.
Making communications from one part of a railway-train to another.	11,915	21st Oct. 1847	Edmund Tattersall.
Machine for causing communication between the guards and engine-drivers of railway-carriages while travelling; also between vessels at sea and the shore; and for other purposes; "Atmospheric signal by land or water."	11,945	4th Nov. 1847	George Wells.
Method of communication between persons in charge of railway-trains, and between passengers and engine-drivers and other servants in charge of such trains.	12,004	22nd Dec. 1847	Richard Baird.
Making communications between the guards, engineers, and other servants in charge of railway-carriages; also between the passengers and such servants;—applicable generally where speedy and certain communications are required [bell machinery].	12,070	16th Feb. 1848	Joseph Barber Haxby.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>RAILWAYS, &amp;c.—continued.</b>			
Mode of communicating intelligence on railways between the guards or passengers and the engine-driver, by means of electricity and magnetism, combined or not with steam; communicating signals by the same agency, describing the cause of alarm; also communicating intelligence between distant places on the line.	12,076	28th Feb. 1848	John Craft Roberts.
Effecting a communication with different parts of a railway-train, by signals or otherwise	12,231	7th Aug. 1848	{ Samuel Thornton. James Edward M <sup>c</sup> Connell.
Means of communicating between the passengers and guard of a railway-train, or between the guard and engine-driver, parts of which are applicable to working signals on railways.	12,615	22nd May 1849	Francis Edward Colegrave.
Conveyances on land [ <i>a signal between the guards of railway-trains and the passengers;—applicable also to vessels on water.</i> ]	12,826	2nd Nov. 1849	Lucien Vidie.
Making communications between the guards and engine-drivers on railways.	13,687	22nd July 1851	Samuel Varley.
Apparatus for signal and other lights for railways	13,908	22nd Jan. 1852	Walter Marr Brydone.
Preventing accidents on railways [ <i>setting signal-posts</i> ].	14,037	24th March 1852	William Archer.
<b>XIII.—Regulating and ascertaining Arrival and Departure.</b>			
Method of combining and applying materials to the formation or construction of roads or ways [ <i>printing the times of the arrival and departure of trains, and the times of fast trains passing stations</i> ].	8663	15th Oct. 1840	Henry Pinkus.
Ascertaining and regulating the speed and times of railway-trains.	11,368	10th Sept. 1846	Charles Ylery.
Manufacture of time-tables.	12,041	25th Jan. 1848	Thomas Topham.
Conveyances on land [ <i>exhibiting in railway-carriages the names of stations as arrived at: the names are printed on boards fixed on a travelling band, and each name appears in the carriage at the proper time, the motion of the band being regulated by the progress of the train.</i> ]	12,826	2nd Nov. 1849	Lucien Vidie.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>REFRIGERATING AND FREEZING.</b>			
<b>I.—Refrigerating.</b>			
Apparatus for cooling worts - - - - -	1769	28th July 1790	{ Thomas Harris. John Long.
Cooling spirits in the process of distillation - -	2163	7th Feb. 1797	John Falconer Atlee.
Apparatus or refrigerator for cooling the worts, or other fermented, fermentable, or other liquids.	2495	2nd May 1801	Henry Tickell.
Apparatus for cooling brewers', vinegar-makers', and distillers' worts, wash, &c.	3778	8th Feb. 1814	John Vallance.
Cooling either air or liquids - - - - -	3963	5th Dec. 1815	Jean Frederic Marquis de Chabannes.
Machine for cooling liquids;—applicable to the condensation of vapour.	4175	1st Nov. 1817	Daniel Towers Shears.
Cooling air in houses or other buildings; also cooling liquids;—applicable to other purposes.	4192	19th Dec. 1817	Jean Frederic Marquis de Chabannes.
Refrigerators - - - - -	4197	15th Jan. 1818	Philip Taylor.
Apparatus for cooling liquors and all other fluid } or solid matters - - - - - }	4331	15th Jan. 1819	{ Robert Salmon. William Warrell.
Means of transmitting cold from one body to another, whether solids or fluids.	4541	5th March 1821	Jonathan Dickson.
Anti-evaporating cooler, to regulate the temperature of worts or wash in fermentation.	4558	1st Nov. 1823	William Bundy.
Apparatus to cool wort or must previously to fermentation, and for condensing steam arising from stills during distillation.	5368	23rd May 1826	Dominique Pierre Deurbroucq.
Apparatus for cooling fluids [worts] - - - - -	5406	24th Aug. 1826	James Yandall.
Apparatus for cooling liquids - - - - -	5539	13th Aug. 1827	William Alexis Jarrin.
Refrigerators for cooling fluids - - - - -	5565	22nd Nov. 1827	Robert Wheeler.
Machinery used in brewing [cooling by a system of pipes in a close vessel].	5974	5th Aug. 1830	Æneas Coffey.
Mode of refrigerating fluids - - - - -	6539	13th Jan. 1834	Joshua Bates.
Methods of abstracting heat from steam and other vapours and fluids; applicable to stills, breweries, and to other useful purposes - - - - - }	6663	26th July 1834	{ John Chanter. William Witty.
Machinery for refrigerating fluids - - - - -	6655	9th Aug. 1834	Lemuel Wellman Wright.
Cooling fluids - - - - -	6982	19th Jan. 1836	Charles Brandt.
Cooling fluids - - - - -	7157	27th July 1836	Charles Brandt.
Apparatus for diminishing the evaporation of vinous, alcoholic, acetic, and other volatile vapours.	7336	4th April 1837	William Wynn.
Apparatus for cooling fluids - - - - -	7554	6th Nov. 1838	William Henry James.
Cooling fluids - - - - -	8550	24th June 1840	{ John Aitchison. Archibald Hastie.
"Refrigerator," for the speedy cooling of liquids within certain degrees of temperature.	10,071	24th Feb. 1844	Thomas Masterman.
Refrigerators - - - - -	11,166	15th April 1846	Simeon Hyde.
Apparatus and means for cooling liquids and matters, and preventing liquids freezing.	11,453	17th Nov. 1846	Thomas Masters.
Machinery for cooling liquids and condensing and cooling gases.	12,270	21st Sept. 1848	Joseph Lillie.
Cooling matters [disclaimed] - - - - -	12,626	2nd June 1849	Moses Poole.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>REFRIGERATING, &amp;c.—continued.</b>			
Apparatus for preserving substances from evaporation.	13,525	24th Feb. 1851	Gabriel Didier Fevre.
Cooling liquids - - - - -	13,680	3rd July 1851	Charles Payne.
Refrigerator to be used in brewing and other similar purposes [ <i>employing a galvanic circuit</i> ].	14,015	8th March 1852	Peter Van Kempen.
Refrigerating, and apparatus connected therewith -	14,283	3rd Sept. 1852	William Henry James.
Apparatus for refrigerating liquids; ornamenting such apparatus.	14,300	23rd Sept. 1852	François Mathieu.
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<b>II.—Freezing.</b>			
Method of freezing water [ <i>by the rapid passage of rarefied air</i> ].	4884	1st Jan. 1824	John Vallance.
Abstracting or carrying off the caloric of fluidity from congealing water; producing intense cold;—applicable to other purposes.	5001	28th Aug. 1824	John Vallance.
Apparatus and means for producing ice, and cooling fluids.	6662	14th Aug. 1834	Jacob Perkins.
Freezing, cooling, churning, and ice-preserving apparatus, the parts of which may be used either separately or in combination.	9825	6th July 1843	Thomas Masters.
Refrigerating and freezing - - - - -	13,167	3rd July 1850	James Kingsford.
Apparatus for producing ice and for general refrigerating purposes.	13,234	22nd Aug. 1850	William Edward Newton.
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<b>ROPE MANUFACTURE.</b>			
<b>I.—Making and coiling Ropes and Cordage.</b>			
Twisting ropes, cords and cables by horse or water power.	369	1st Jan. 1703	George Sorocold.
Re-manufacturing cordage; also making new ropes and twice-laid ropes, by spinning the yarn together without knots, and laying and closing them with more regularity and expedition.	1442	3rd July 1784	Benjamin Seymour.
Machine for making lines, ropes, and cables - -	1446	28th July 1784	Richard March.
Machine for manufacturing twine, cable and other cordage.	1537	4th March 1786	Benjamin Seymour.
Spinning-wheel for the purpose of spinning, and at the same time reeling or winding rope-yarn and other articles to any size or dimensions required.	1811	29th May 1791	Jean Arnoux.
Improvements upon and additions to machinery for manufacturing and fabricating wool, hemp, flax, silk, hair, and cotton from the raw state of each respective article till made into yarn, twist, cords, ropes, and cables.	1878	15th May 1792	Edmund Cartwright.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ROPE MANUFACTURE</b> — <i>continued.</i>			
Machinery for making cordage - - - -	1838	16th March 1793	John Daniel Belfour.
Machine for making ropes and cordage - - -	1846	12th April 1793	Richard Fothergill.
Making cables and other cordage - - - -	1852	25th April 1793	Joseph Huddart.
Machines for making cordage - - - -	2034	19th Jan. 1795	{ William Sellars. Peter Standage.
Making ropes of any number of yarns and strands, tarred or untarred.	2191	13th Sept. 1797	William Chapman.
Laying, twisting or making ropes or cordage of any number of yarns and strands, or any number of threads, tarred or untarred, from the size of a cable to the smallest line composed of more than one thread; coiling up such ropes and strands of ropes during the process of making.	2219	6th March 1798	William Chapman.
Machine for making cordage - - - -	2233	3rd May 1798	John Daniel Belfour.
Laying, twisting or making ropes or cordage of any number of yarns or strands, or any number of threads, tarred or untarred, from the size of a cable down to the smallest line; coiling up such ropes or strands of ropes [ <i>improvements on patent No. 2219</i> ].	2265	8th Nov. 1798	William Chapman.
Making flat rope for use in drawing coals and other materials out of pits or mines.	2270	17th Nov. 1798	John Curr.
Manufacturing cordage - - - -	2313	30th April 1799	John Daniel Belfour.
Making cords, ropes, and cordage, tarred and untarred, from the spinning of the yarn to the finishing of the rope or cordage.	2326	16th July 1799	William Chapman.
Manufacturing cables, hawsers, or shroud-laid ropes and other cordage.	2333	23rd July 1799	James Mitchell.
Manufacture of ropes and cordage - - - -	2335	2nd Aug. 1799	John Grimshaw.
Registering or forming the strands in the machinery for manufacturing cordage.	2339	20th Aug. 1799	Joseph Huddart.
Manufacturing cordage - - - -	2421	1st July 1800	Joseph Huddart.
Portable machine for manufacturing ropes and cordage of any length in a short space of ground; particularly adapted to shipping.	2528	20th July 1801	William Hoard.
Machinery for the purpose of spinning rope-yarn, and for laying or making ropes and other cordage.	2553	10th Nov. 1801	Archibald Thompson.
Manufacture of cables and hawsers - - - -	2592	9th March 1802	{ James Mitchell, junior. James Mitchell, senior.
Machinery for laying ropes - - - -	2651	5th Oct. 1802	John Grimshaw.
Machinery for laying cord, lines, and twine - -	2770	2nd June 1804	John Heppenstall.
Manufacture of large cables and cordage in general -	2886	30th Oct. 1805	Joseph Huddart.
Laying ropes - - - -	2891	16th Nov. 1805	John Curr.
Spinning hemp for making ropes or cordage - -	2914	8th March 1806	John Curr.
Making ropes and cordage - - - -	2957	9th Aug. 1806	Ralph Walker.
Laying and twisting yarns for making ropes - -	2960	23rd Aug. 1806	John Curr.
Cordage made by a new process, from old rope or junk, or short ends of new rope, usually converted into oakum or coarse paper; such process obviating the objections to twice-laid cordage, and producing an article nearly equal to that made from new materials.	2961	30th Aug. 1806	Richard Ford.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ROPE MANUFACTURE—continued.</b>			
Construction of a machine for making rope or cordage, either shroud or cable laid; manufacturing the same.	3052	16th June 1807	John Syeda.
Making belts or flat bands for drawing coals and other minerals out of pits and mines, and for raising weights - - - - -	3078	30th Oct. 1807	{ William Chapman. Edward Walton Chapman.
Rope-making upon the principle of each strand being composed of two threads twisted together; arrangement of apparatus for carrying the same into effect.	3145	25th June 1808	Samuel Gadd.
Making and manufacturing ropes and other cordage; coiling lines in whale-boats.	3146	28th June 1808	John Hall.
Rope-making - - - - -	3160	18th Aug. 1808	James Gale.
Method or process of manufacturing a material from the twigs or branches of broom, mallows, and rushes, and other shrubs or plants of the like species, to be used in the stead of flax or hemp, and for the same purposes for which flax and hemp are now used [ <i>used for making ropes</i> ].	3356	3rd July 1810	James Hall.
Laying ropes - - - - -	3502	30th Oct. 1811	John Curr.
Rope-making, and machinery adapted to the purpose.	3662	13th March 1813	George Duncan.
Rope-making, and machinery for the same - -	3753	16th Nov. 1813	James Bounsall.
Spinning and laying ropes, twine, line, &c., by machinery.	3812	7th June 1814	William Sellars.
Laying ropes, twine, and line by machinery - -	3903	4th April 1815	William Vaughan Palmer.
Manufacture of ropes and belts by machinery; improvements in such machinery.	4497	12th Oct. 1820	William Harvey.
Method of stitching, lacing or manufacturing flat ropes, by means of certain rotative machinery connected with or worked by a steam-engine or other rotative power, whereby the said stitching, lacing, or manufacturing of flat ropes is better executed than the same can be done or performed by any other method now in use.	4669	16th April 1822	John Grimshaw.
Preparation or process of making ropes, cordage, and other articles from hemp, flax, and other fibrous substances.	5122	15th March 1825	Thomas Hancock.
Cordage - - - - -	5252	15th Sept. 1825	Cathcart Dempster.
Manufacture of hempen rope or cordage - -	5696	4th Sept. 1828	John Robertson.
Manufacture of ropes and cordage from substances hitherto unused for the purpose [ <i>silk grass treated with gummy solutions</i> ].	5846	15th Sept. 1829	George Harris.
Manufacturing or making cables, ropes, whale-fishing and other lines, lathe and rigger bands, bags, and purses;—part of which said improved articles are applicable to other useful purposes.	6193	1st Dec. 1831	Robert William Sievier.
Manufacture of flat rope for use in mines - -	6294	8th Aug. 1832	Joseph Crawhall.
Machinery for making strands from the yarns, and laying ropes by such machinery at one and the same time.	6420	8th May 1833	William Norvell.
Preparing phormium tenax, hemp, flax, and other fibrous substances, and rendering the same fit for spinning in the manufacture of ropes, cordage, lines, and twine.	6612	24th May 1834	Andrew Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ROPE MANUFACTURE—continued.</b>			
Manufacturing belts, bands, and straps to be employed in the place of ropes or chains, and for other useful purposes - - - - -	7044	26th March 1836	{ John Lionel Hood. Andrew Smith.
Preparing or manufacturing the leaf of a certain plant so as to produce a fibrous substance not hitherto used in manufactures; application of the same to various purposes [ <i>for making ropes</i> ].	7249	9th Dec. 1836	Frederic Burt Zinke, junior.
Method of applying certain textile and exotic plants as substitutes in various cases for flax, hemp, cotton, and silk [ <i>fibres of tropical plants, suitable for making ropes, cables, and string</i> ].	7639	14th May 1838	Miles Berry.
Ropes and lines - - - - -	7818	20th Sept. 1838	Robert William Sievier.
Manufacture of ropes for cables and for other purposes.	8009	20th March 1839	Andrew Smith.
Apparatus for serving ropes and cables with yarn -	8674	2nd Nov. 1840	John Edward Orange.
Manufacture of ropes and cables - - - - -	8876	8th March 1841	John Baptist Fried Wilhelm Heimann.
Manufacture of cordage from vegetable matters not before used for that purpose [ <i>convolvuli</i> ].	9863	10th Aug. 1843	Richard Archibald Brocman.
Machinery for manufacturing ropes and cordage -	10,086	2nd March 1844	Joseph Crawhall.
Manufacture of gutta-percha, and its application alone and in combination with other substances [ <i>for making bands</i> ].	11,032	12th Jan. 1846	Charles Hancock.
Manufacture of yarn, twine, and cordage - -	11,186	30th April 1846	Joseph Douglass.
Manufacture of rings, straps, bands and bandages, cords and string, and their application to clock-work, to locks and other fastenings, to presses, to books, to paper-holders, to candle-lamps, to window-sashes, to doors, to window-blinds, to seats and surfaces for lying and reclining upon.	11,212	19th May 1846	Stephen Perry.
Machinery for twisting, twining, or manufacturing cords, band, twine, and other similar articles, from cotton, flax, hemp, silk, and other fibrous yarns or threads.	11,580	16th Feb. 1847	Nathaniel Card.
Manufacture of rope, cord, line, and twine - -	11,996	15th Dec. 1847	Henry Winter.
Machinery for rope-making - - - - -	12,490	28th Feb. 1849	Robert Pollard.
Machinery for manufacturing rope or cordage; modes of fitting and using the same.	12,620	24th May 1849	Andrew Smith.
Manufacture of woven and twisted fabrics [ <i>making ropes of yarn coated with gutta-percha</i> ].	12,680	29th June 1849	Thomas Beale Browne.
Manufacture of cords, ropes, bands, &c. - - -	13,109	8th June 1850	William Newton.
Machinery for the manufacture of rope and cordage	13,583	2nd April 1851	Richard Archibald Brocman.
Manufacture of rope - - - - -	13,684	3rd July 1851	Robert Hayes Easum.
<b>II.—Making Wire-ropes.</b>			
Machinery for making wire-ropes - - - - -	8594	7th Aug. 1840	Robert Stirling Newall.
Manufacture of ropes and cables [ <i>wire ropes and cables</i> ].	8876	8th March 1841	John Baptist Fried Wilhelm Heimann.
Manufacture of wire-ropes; apparatus for the purpose.	9656	6th March 1843	Robert Stirling Newall.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>ROPE MANUFACTURE, &amp;c.—continued.</b>			
Making metallic cylinders and other similar articles [making metallic bands.]	11,435	3rd Nov. 1846	William Exall.
Machinery for manufacturing rope or cordage; modes of fitting and using the same [wire-rope].	12,620	24th May 1849	Andrew Smith.
Wire-ropes - - - - -	12,835	8th Nov. 1849	James Buck Wilson.
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<b>III.—Tarring and preserving Cordage.</b>			
Tarring cordage - - - - -	2421	1st July 1800	Joseph Huddart.
Preserving cordage by application of certain substances, separately or combined.	2513	5th June 1801	William Chapman.
Machinery used for tarring ropes and cables - -	4160	12th Aug. 1817	James Bounsall.
Cordage [prepared with corrosive sublimate, &c., to prevent decay].	5252	15th Sept. 1825	Cathcart Dempster.
Manufacture of hempen rope or cordage [prepared with a tanning material to prevent rotting].	5696	4th Sept. 1828	John Robertson.
Preserving cordage for ships and other uses - -	6309	22nd Sept. 1832	John Howard Kyan.
Rendering ropes and cordage more durable, less pervious to water, or less inflammable, as may be required for various useful purposes.	7731	11th July 1838	John Bethell.
Applying tar or other preservatives to rope or other yarns.	8514	22nd May 1840	James Buchanan.
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<b>IV.—Making Oakum.</b>			
Removing tar from tarred ropes, and making it fit for the manufacturer.	3199	4th Feb. 1809	Thomas Potts.
Manufacture of oakum - - - - -	7167	11th Aug. 1836	Joseph Douglass.
Machinery for converting ropes into tow - -	7204	8th Oct. 1836	John Sharp.
Preparing oakum and other fibrous substances for calking ships and other vessels.	9297	21st March 1842	Edwin Ward Trent.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
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SADDLERY AND HARNESS.			
I.—Draught-harness.			
Harness, collars, &c. - - - - -	31	7th Jan. 1625	Edward Knappe.
Harness for drawing chairs - - - - -	655	6th April 1750	John Thompson.
Ornamenting harness and accoutrements - -	1727	23rd Feb. 1790	Samuel Hands.
Escape by which horses can disengage themselves from their halters when entangled therein.	1988	18th April 1792	Stephen Jenner.
Harness for horses drawing two-wheeled carriages -	1886	6th June 1792	Benjamin Vulliamy.
Construction of harness - - - - -	2082	19th Jan. 1796	Jasper Augustus Kelly.
Horse-collars - - - - -	2496	2nd May 1801	John Edwards.
Construction of harness and other gear for horses and other animals.	2557	10th Nov. 1801	Robert Dickinson.
Working and making furniture or accoutrements useful or necessary in the employment of horses.	2648	27th Sept. 1802	Robert Dickinson.
Horse-boot for the preservation of sound hoofs and the restoration of contracted hoofs.	3542	27th Feb. 1812	Francis Purden.
Saddlery - - - - -	3857	28th Nov. 1814	Robert Dickinson.
Constructing and making harness for horses and other animals used for drawing carriages; "Release harness."	4329	15th Jan. 1819	John Simpson.
Construction of harness [ <i>fastening gig-traces to the horse's collar by a button and staple</i> ].	4580	14th Aug. 1821	William Henry Higman.
Construction of harness for animals of draught and burden.	4536	8th Sept. 1821	David Gordon.
Harness, chiefly applicable to carriages drawn by one horse.	4912	28th Feb. 1824	William Greaves.
Collars for draught-horses - - - - -	5147	2nd April 1825	{ William Turner. William Mosedale.
Harness to be used with carriages - - - - -	5216	16th July 1825	Thomas Cook.
Manufacture or construction of collars for horses or other animals [ <i>opening by a joint</i> ].	5220	16th July 1825	Thomas Musselwhite.
Making collars for horses and other cattle - -	5382	4th July 1826	Daniel Freeman.
Manufacture of collars for draught and carriage horses [ <i>having lateral flexibility</i> ].	5532	1st Aug. 1827	Lionel Lukin.
Harness and saddlery;—partly applicable to other purposes.	5759	17th Jan. 1829	William Taft.
Certain improvements in or additions to harness and saddlery;—partly applicable to other purposes.	5814	8th July 1829	William Leeson.
Guards or protections for horses' feet and legs -	5922	20th March 1830	Benjamin Rotch.
Collar for horses - - - - -	6100	29th March 1831	Thomas Coleman.
Constructing collars for horses and other animals -	6298	22nd Aug. 1832	William Joyce.
Horse-collars - - - - -	7087	9th May 1836	Luke Hebert.
Harness - - - - -	7147	13th July 1836	Louis Matthias Horliac.
Harness for draught and saddle horses - - -	7300	16th Feb. 1837	William Stedman Gillett.
Harness for horses - - - - -	7540	13th Jan. 1838	Edward Davy.
Collars for horses and other animals - - -	8228	27th Sept. 1839	Henry James Pidding.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SADDLERY, &amp;c.—continued.</b>			
Construction of collars for horses and other draught animals.	8775	6th Jan. 1841	John Rock Day.
Manufacture of parts of harness and saddlery furniture.	9417	12th July 1842	Thomas Deakin.
Collars for horses and other animals - - -	9799	23rd June 1843	Moses Poole.
Horse-harness - - - - -	9888	5th Oct. 1843	Edward Banton.
Machine for rivetting traces - - - - -	10,084	27th Feb. 1844	Thomas Harbottle.
Construction and fitting up of hames for the prevention and cure of galled shoulders in draught-horses.	10,246	3rd July 1844	Stephen Bencraft.
Harness or harness-furniture - - - - -	10,492	23rd Jan. 1845	George Joseph Green.
Constructing parts of the harness of horses and other beasts of burden.	11,165	15th April 1846	Peter Armand le Comte de Fontainemoreau.
Manufacture of harness for beasts of burden - -	11,334	13th Aug. 1846	Daniel Sydney Hasluck.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of harness</i> ] - - }	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Draught-harness - - - - -	11,935	2nd Nov. 1847	William Boulnois.
Draught-horse saddlery and harness - - - - -	12,765	13th Sept. 1849	Richard Archibald Brooman.
Compositions applicable to the manufacture of harness.	13,021	23rd March 1850	Alfred Vincent Newton.
Saddlery and harness - - - - -	13,502	10th Feb. 1851	Joseph Haythorne Reed.
Saddlery and harness - - - - -	13,548	10th March 1851	James Murray.
Harness and fastenings - - - - -	13,813	15th Nov. 1851	James Lott.
<b>II.—Saddles, Girths, Straps, and Springs.</b>			
Springs for saddles, pillions and their stirrups, whereby the shake or hard motion of a horse is taken away, and the rider sits much steadier and easier than upon those now used, and which will also greatly ease the horse.	816	29th Oct. 1764	Richard Tredwell.
Making saddles and saddle-cloths - - - - -	973	7th Dec. 1770	Thomas Bailey.
Mail-pillion - - - - -	1098	10th June 1775	Charles Hawkins.
Spring saddle - - - - -	1127	7th June 1776	John Walker.
Scoop-saddle, with a cavity for containing apparel, under lock and key.	1254	4th May 1780	Thomas Lindopp.
Machine to affix to a saddle for supporting an umbrella.	1264	15th Sept. 1780	Mark Bull.
Making saddles - - - - -	1314	9th Jan. 1782	Joseph Peover.
Spring bands for harness - - - - -	1404	1st Dec. 1783	Martin Vanbutchell.
Gut-strainings for making elastic saddles, which will give ease in riding to both rider and horse.	1436	4th June 1784	Thomas Maxfield.
Applying springs to saddles, stirrups, martingale rings, whips, bridle-bits, terrets for harness, and squares for stable collar-reins.	1558	29th Sept. 1786	Thomas Smith.
Saddle-tree and saddle - - - - -	1810	28th May 1791	Jasper Augustus Kelly.
Construction of saddles made to fit either horse, mule, or pony, without injury to the backs of the same - - - - -	1821	19th July 1791	{ Edward Dunn. William Jackson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SADDLERY, &amp;c.—continued.</b>			
Saddle or pad to be fixed on a horse or other animal, by two girths, one on each side of the saddle.	1931	15th Jan. 1793	Robert Vazie.
Saddle-tree for the use of ladies, with a steel spring head to fall down, and thereby prevent danger in case of the horse tripping, falling, or running away, contrived so that the rider can disengage herself from the saddle, and prevent her clothes from being entangled in the horn or head of the saddle.	1992	27th May 1794	Edward Jones.
Making saddles - - - - -	2503	21st May 1801	Walter Inglis.
Construction of saddles and other gear for horses and other animals.	2557	10th Nov. 1801	Robert Dickinson.
Fixing to saddles the straps to which the girths are usually made fast.	2578	6th Feb. 1802	Robert Dickinson.
Saddles - - - - -	2850	18th May 1805	Thomas Pidgeon.
Saddle-bar named "Motion saddle-bar" - -	2904	23rd Jan. 1806	John Dobbs Davies.
Making girths for horses, of whalebone - -	2985	30th Oct. 1806	Robert Bowman.
Girth-pannel to prevent the saddle from slipping forward upon horses.	3062	20th July 1807	Gordon Howden.
Saddles - - - - -	3595	12th Aug. 1812	James Goodman.
Making saddle girths and straps by the application of materials not hitherto used for the purpose [made elastic by springs].	4486	11th July 1820	Samuel Fletcher.
Construction of harness for animals of draught and burden [helical springs for the traces of harness].	4586	8th Sept. 1821	David Gordon.
Instrument to be affixed to a saddle-tree, by the application of which distress to the horse may be avoided.	4844	11th Sept. 1823	Henry Constantine Jennings.
Constructing gambadoes or mud-boots; attaching spurs thereto [and a mode of attaching them to the saddle].	4984	13th Nov. 1823	Richard Green.
Making saddles - - - - -	4981	20th May 1824	Thomas Marsh.
Making and constructing saddles and side-saddles -	5049	4th Dec. 1824	George Wycherley.
Construction of riding-saddles - - - - -	5199	28th June 1825	George Tompson.
Manufacture of saddles for draught and carriage and saddle horses [having lateral flexibility].	5532	1st Aug. 1827	Lionel Lukin.
Apparatus to be affixed to saddles and girths - -	5980	10th Aug. 1830	{ John Lawrance. William Rudder.
Elastic self-adjusting saddle - - - - -	5993	7th Sept. 1830	Thomas Thacher.
Making saddle-lining, saddle-cloth, and girths for keeping saddles in their place proper on horses and other animals of burden.	6017	20th Oct. 1830	Samuel Clerk.
Making saddles so as to avoid the danger arising from their slipping forward.	6021	26th Oct. 1830	Henry Calvert.
Apparatus applicable to side-saddles, for security of persons riding.	6597	22nd April 1834	Juan Jose Segundo.
Construction of saddles - - - - -	6622	5th June 1834	George Saint Leger Greusell.
Saddles for horses - - - - -	6700	22nd Oct. 1834	{ Manoah Bower. George Blyth.
Saddles for riding - - - - -	7080	7th May 1836	Thomas Taylor.
Saddles for harness - - - - -	7540	13th Jan. 1838	Edward Davy.
Saddles for horses and other animals, applicable to apparatus for carrying packs.	8050	25th April 1839	John Browne.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SADDLERY, &amp;c.—continued.</b>			
Construction of saddle-trees - - - - -	9387	9th June 1842	Stephen Bencraft.
Saddles - - - - -	9470	15th Sept. 1842	John Rolt.
Saddles - - - - -	9484	6th Oct. 1842	John George Shipley.
Saddles - - - - -	9688	5th Oct. 1843	Edward Banton.
Springs to be applied to girths, belts, and bandages; manufacture of elastic bands [and knee caps for horses] - - - - -	10,568	17th March 1845	{ Stephen Perry. Thomas Barnabas Daft.
Saddles - - - - -	11,287	13th July 1846	William Middlemore.
Saddles - - - - -	11,305	23rd July 1846	James Henry Dickson.
Mode of fitting certain girths and straps - -	12,132	20th April 1848	John Thang Harradine.
Saddle-trees - - - - -	12,765	13th Sept. 1849	Richard Archibald Broo- man.
Saddles ;—partly applicable to other purposes -	12,953	29th Jan. 1850	Francis Edward Cole- grave.
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<b>III.—Bridles, Reins, and Bits.</b>			
Horse-bits - - - - -	645	29th June 1749	Samuel Palmer.
Bridle-bits, snaffles and bradoons, for horses and other cattle.	1557	25th Aug. 1786	Thomas Robathan.
Apparatus for stopping unruly horses - - -	2674	20th Jan. 1803	Charles Robert Wilson.
Bridle-bits - - - - -	2799	19th Dec. 1804	Joseph Wickham Mayer.
Bridle-bits - - - - -	3509	16th Jan. 1805	Samuel Chifney.
Bridles - - - - -	2845	7th May 1805	John Edwards.
Bridle-bits - - - - -	3329	2nd May 1810	Luke Hopkinson.
Making bridle-bits, snaffles and bradoons, for horses	3464	11th July 1811	Joseph Bagnall.
Bridle-bits and leather sliding loops to act with reins and bits.	4155	5th Aug. 1817	Thomas Taft.
Bridle for horses - - - - -	4287	12th Oct. 1818	William Finch.
Bit for coach and bridle use; "The humane safety-bit."	4396	20th Sept. 1819	Baron Charles Philip De Thierry.
Bits for riding horses, and for horses in single and double harness.	4635	19th Aug. 1823	George Diggles.
Make, use, and application of bridle-bits [passing the port-bar under the horse's tongue].	5549	6th Sept. 1827	William John Ford.
Port-bits [for protecting the horse's palate and tongue from injury].	5734	15th Dec. 1828	Valentine Llanos.
Bits for horses and other animals - - - - -	5953	6th July 1830	John Surman.
Bridles [apparatus to be attached to a snaffle-bridle for governing a restive horse].	6087	21st Feb. 1831	John Phillips.
Construction and make of driving-reins, harness bridles and reins, and bridles and reins for riding - - - - -	9314	6th April 1842	{ John Read. Henry Putland. Charles Woods.
Bits for horses and other animals - - - - -	9575	29th Dec. 1842	Edward Thomas Lord ThurLOW.
Making traces, reins, and other articles of leather, felt, or parchment; machinery for the purpose.	11,358	29th Aug. 1846	William Air Foster.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SADDLERY, &amp;c.—continued.</b>			
<b>IV.—Stirrups, Spurs, and Hooks.</b>			
Stirrups, stirrup-leathers, and housens - - -	494	8th June 1727	Edward Newsham.
Stirrups - - - - -	1127	7th June 1776	John Walker.
Stirrups for saddles, to prevent accidents arising from entangling the foot therein.	1375	2nd June 1783	Robert Hayward.
Construction of spurs - - - - -	1538	11th March 1786	Richard Ireland Thurgood.
Spur upon an entirely new principle - - -	1541	27th March 1786	Joseph Antley.
Making elastic spring spurs, of gold, silver, iron, steel, copper, pinchbeck or other mixed metals, also of metals plated with gold and silver.	1549	1st July 1786	Thomas Cheston.
Construction of stirrup-irons - - - - -	1821	19th July 1791	{ Edward Dunn. William Jackson.
Fastenings for spurs ;—applicable to other purposes where buckles are used.	1908	7th Sept. 1792	James Smith.
Stirrups - - - - -	2426	24th July 1800	Emanuel Hesse.
Making stirrups - - - - -	2435	2nd Aug. 1800	Isaac Hadley Reddell.
Stirrup - - - - -	2628	14th June 1802	Thomas Maltby.
Apparatus fixed to stirrups for the purpose of detaching the same from the stirrup-leather, in cases of accidents.	2853	27th May 1805	John Blunt.
Hook for bearing up the heads of horses in drawing carriages.	3212	1st March 1809	Abraham Seward.
Making martingale hooks and rings - - -	3464	11th July 1811	Joseph Bagnall.
Stirrup with a spring in the eye, and a spring bottom, for the safety of persons riding on horse-back, and to prevent their being dragged in the stirrup.	3656	3rd March 1813	Richard Green.
Constructing and making spring hooks or woodcock-eyes used for coach harness, which principle of spring is also applicable to harness buckles, terrets, hooks, and harness and spring swivels.	4227	16th Feb. 1818	John Simpson.
Spring billet for harness, and the application thereof to bridles, heads and reins, bits, sword-belts, gun-springs, and to other purposes.	4291	31st Aug. 1818	Richard Green.
Stirrup-irons - - - - -	4547	5th April 1821	James Goodman.
Attaching spurs to mud-boots - - - - -	4864	13th Nov. 1823	Richard Green.
Construction of spurs [and attaching them to boots].	5558	6th Nov. 1827	Frederick Foveaux Weiss.
Spring spur-sockets - - - - -	5684	13th Aug. 1828	Henry Maxwell.
Stirrups for horses and other animals - - -	8050	25th April 1839	John Browne.
Stirrup-irons - - - - -	8510	13th May 1840	Bryan J'Anson Bromwich.
<b>V.—Whips.</b>			
Machine for making and twisting whips - - -	313	31st Jan. 1693	John Reepe.
Machine for platting thongs - - - - -	638	18th Nov. 1748	Thomas Walford.
Machine for platting or weaving whips - - -	764	3rd Aug. 1761	George Dundas.
Construction of whips - - - - -	3715	3rd July 1813	Edward Thomason.

Subject-matter of Patents.	Number of Patent.	Date.	Name of Patentee.
<b>SADDLERY, &amp;c.—continued.</b>			
Whipstick or cane to be used when riding - - -	6272	5th June 1832	Joseph Alexander Taylor.
Manufacturing certain materials as substitutes for whalebone; machinery for effecting the same [rolled or twisted strips of metal used in riding and other elastic whips].	9851	24th July 1843	Joseph Daniel Davidge.
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<b>VI.—Currycombs.</b>			
Affixing an iron or other comb to the edge or outside of a currycomb, for combing the manes and tails of horses, and for combing dirt from horses and other cattle.	2229	18th April 1798	Francis Hollick.
Currycomb [inverting the handle over the back] -	3956	23rd Aug. 1815	James Carpenter.
Combs [currycombs] - - - - -	8301	21st March 1842	William Hancock, junior.
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<b>SAFES AND OTHER DEPOSITORIES.</b>			
Preserving papers and other property from injury by fire.	2477	10th Feb. 1801	Richard Scott.
Process for the invention of a particular till - -	5746	18th Dec. 1828	Francis Horatio Nelson Drake.
Making copper, iron, tin, and other metal safes, boxes and repositories, with metal and mineral and other means, to afford security against fire, to deeds, documents, and property contained therein.	6555	13th Feb. 1834	William Marr.
Making secure receptacles for property, strong doors, safes, chests, and boxes.	6832	13th May 1835	Charles Chubb.
Apparatus and machinery for preserving books, papers, documents, and articles, from fire [an iron chest, with apparatus for lowering it into a bricked well or receptacle] - - - - -	8100	11th June 1839	{ Charles Chubb. Jeremiah Chubb.
Boxes, safes, or other depositories, for the protection of papers and other materials from fire.	8401	26th Feb. 1840	Thomas Milner.
Iron safes, chests, and other repositories - - -	9963	25th Nov. 1843	{ Edward Tann, senior. Edward Tann, junior. John Tann.
Boxes, safes, or other depositories, for the protection of papers from fire.	13,540	3rd March 1851	William Milner.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SALT AND SALTPETRE.</b>			
<b>I.—Making, Refining, and Crystallizing.</b>			
Making white and bay salt of sea-water, sea-sand, } and other materials - - - - - }	46	13th April 1629	{ John Rudson. Francis Croote.
Method of multiplying and making saltpetre in a field of four acres, sufficient to serve His Majesty's dominions.	50	21st Jan. 1630	David Ramsay.
Making white and bay salt with sea-water and brine, without such pans and furnaces or other means as now in use - - - - - }	53	— Sept. 1630	{ John Copley. Sir Robert Sharpey, Knt. Anthony Sabart.
Making saltpetre - - - - -	55	11th June 1632	Sir Edward Wardour.
Making salt - - - - -	60	3rd Dec. 1632	{ Nicholas Murford. Xr'of'er Hanworth.
Making salt [power to erect works for the purpose, on waste land near the sea-coasts].	80	10th March 1635	{ James Vandebrooke. Sir Thomas Culpepper. Nicholas Scandalarius.
Making bay-salt - - - - -	211	9th June 1681	{ Edward Mayo (licensed under Francis Fandell du Tresue's Patent).
Making salt and draining brine-pits - - -	222	31st July 1682	William Marbury.
Making saltpetre - - - - -	266	7th Feb. 1691	Robert Price and others.
Making salt - - - - -	328	— Oct. 1693	Thomas Bennett.
Making and refining white salt from sea-water, brine-springs, and rock salt.	375	15th March 1706	Daniel Peck.
Making salt - - - - -	384	12th July 1709	Samuel Schmettan.
Making salt, and removing the corrosive nature of the same by a separate preparation of the brine.	416	1st Aug. 1717	George Campbell.
Making the steam of boiling liquors useful for making salt and for other purposes - - - }	430	25th June 1720	{ John Theophilus Desa- guliers. Daniel Niblet. William Vreen.
Method to save coals or other fuel in boiling brine and making it into salt.	488	16th Jan. 1727	John Wayt.
Making salt from sea-water - - - - -	574	24th April 1741	James Ogle.
Making saltpetre or nitre - - - - -	580	19th Nov. 1741	Thomas Harris.
Making bay-salt by the sun's heat - - -	606	13th July 1744	Andrew Reid.
Making salt by means of furnaces - - -	607	19th July 1744	William Radley.
Saving fuel in the manufacture of salt - - -	612	18th April 1745	{ John Kay. Joseph Stell.
Making saltpetre out of ingredients wholly the growth and produce of England.	616	1st April 1746	Dederick Wessel Linden.
Application and adaptation of a machine for making salt from sea-water - - - - - }	689	21st Feb. 1754	{ Kemp Bowman. William Catherwood.
Making saltpetre from vegetables - - -	697	10th Feb. 1755	Paul Nightingale.
Making salt - - - - -	710	9th Sept. 1756	Charles Ard.
Making salt from salt water, salt-spring, and rock- salt.	754	27th Nov. 1760	Benjamin Price.
Manufacturing salt - - - - -	760	6th Feb. 1761	{ John Mackay. Jonathan Greenall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SALT, &amp;c.—continued.</b>			
Making salt equal to that imported from France or Spain.	812	30th April 1764	John Baker.
Making salt from sea-water or brine, by steam -	1008	4th March 1772	{ Daniel Scott. John Mackay.
Extracting saltpetre from a certain mineral -	1015	30th April 1772	Christian Wilhem Baron Van Haacke.
Making saltpetre - - - - -	1104	27th Oct. 1775	Pierre Theodore DeBruges.
Making and refining common and sea salt, for curing fish and flesh, and for other purposes.	1155	13th May 1777	John Mantell.
Machine for making salt from sea water or brine-springs.	1163	19th July 1777	Alexander Mabyne Bailey.
Making salt - - - - -	2524	1st July 1801	James Manley.
Making salt - - - - -	2909	14th Feb. 1806	{ John Marshall. John Naylor.
Machine for making white salt; preparing brine for making white salt.	2953	1st Aug. 1806	Richard Tomkinson.
Machine for making white salt - - - - -	3187	29th Dec. 1808	William Steel.
Making, refining, and purifying muriate of soda or common salt - - - - -	3227	19th April 1809	{ Phillips London, sen. Phillips London, jun.
Preparing or making salt - - - - -	3239	8th June 1809	{ Edward Cragg. William Cragg.
Making salt - - - - -	3494	1st Oct. 1811	William Strachan.
Making salt - - - - -	3826	26th July 1814	William Johnson.
Apparatus for crystallizing salt - - - - -	4505	19th June 1823	James Smith.
Manufacturing salt - - - - -	4876	4th Dec. 1823	Josiah Parkes.
Manufacturing salt - - - - -	4967	15th June 1824	{ William Ainsworth Jump. William Court.
Manufacture of salt - - - - -	5046	4th Dec. 1821	William Furnival.
Manufacturing salt;—partly applicable to other useful purposes.	5047	4th Dec. 1821	William Weston Young.
Manufacture of salt - - - - -	5206	8th July 1825	{ William Furnival. John Craig.
Apparatus for crystallization of aluminous and other saline and crystallizable solutions.	5327	7th Feb. 1826	Josias Christopher Gamble.
Apparatus and process for separating salt from sea-water [by filtration through sand] - - - - -	5401	4th Aug. 1826	{ John Williams. John Doyl.
Process and apparatus for making salt - - - - -	5431	18th Dec. 1826	William Johnson.
Manufacturing salt - - - - -	5903	27th Feb. 1830	{ John Branthwaite. John Ericsson.
Drawing or extracting salt from salt-pans - - - - -	6181	14th Oct. 1831	William Ainsworth Jump.
Apparatus for crystallization of salt - - - - -	6440	20th June 1833	William Newton.
Manufacturing salt - - - - -	6548	25th Jan. 1834	William Garrod.
Manufacture of salt - - - - -	7175	17th Aug. 1836	Joseph Hall.
Construction of apparatus used in the decomposition of salt; mode of using the same.	7208	13th Oct. 1836	Thomas Lutwyche.
Manufacture of salt - - - - -	7804	13th Sept. 1838	Joseph Hall.
Manufacture of salt - - - - -	8007	20th March 1839	Edward Law.
Manufacture of salt - - - - -	8155	16th July 1839	John Reynolds.
Manufacture of salt - - - - -	8338	24th Dec. 1839	Thomas Firmstone.
Preserving salt - - - - -	8505	12th May 1840	John Davidson.
Manufacture of salt - - - - -	8915	26th Jan. 1841	John Bradford Furnival.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SALT, &amp;c.—continued.</b>			
Apparatus for making salt from brine - - -	8888	8th March 1841	Benjamin Smith.
Manufacture of salt - - - - -	9123	20th Oct. 1841	John Bradford Furnival.
Manufacturing salt from brine - - - -	9147	9th Nov. 1841	{ John Garnett.- Joseph Williams.
Manufacture of salt - - - - -	9222	13th Jan. 1842	Henry Waterton.
Manufacture of salt - - - - -	9743	25th May 1843	John Bushby Gibson.
Manufacture of salt; apparatus used therein -	10,209	1st June 1844	{ Walter Noak. John Noak.
Manufacture of salt - - - - -	10,288	6th Aug. 1844	Thomas Greenshields.
Manufacturing salt, apparatus for the purpose -	10,542	3rd March 1845	George Ellins.
Manufacture of salt - - - - -	10,586	2nd April 1845	{ Thomas Lidbetter. John Loughton.
Apparatus for manufacturing salt - - -	11,467	1st Dec. 1846	George Ellins.
Manufacturing common salt - - - - -	12,016	5th Jan. 1848	Alexander Robertson Arrott.
Manufacturing salt; apparatus for the purpose -	12,099	22nd March 1848	George Ellins.
Factitious saltpetre; mode of obtaining the same -	13,331	22nd Aug. 1850	Benjamin Rotch.
Processes and machinery or apparatus employed in the manufacture of salt.	13,749	18th Sept. 1851	John Simpson Leake.
Decomposing saline and other substances, and separating their component parts or some of them from each other; forming certain compounds or combinations of substances.	13,755	25th Sept. 1851	Charles Watt.
<hr/> <b>II.—Boilers and Pans.</b>			
Making and framing boiling-vessels for salt-works and other uses.	146	20th July 1664	Samuel Hutchinson.
Making and setting vessels used in making salt and other things where large furnaces are required.	400	14th Sept. 1716	William Ward.
Boilers for making salt from sea-water - - -	614	17th Sept. 1745	Edward Fairles.
Erecting salt pans for the boiling of salt - -	623	27th July 1747	Samuel Lucas.
Constructing and setting boilers for salt-works -	1056	17th Nov. 1773	Christopher Chrisel.
Boilers applicable to salt-pans or any other purpose	2316	28th May 1799	John Wilkinson.
Setting up salt-pans - - - - -	3622	14th Dec. 1812	John Spencer.
Making salt-pans, thereby saving fuel and labour -	3918	26th May 1815	John Pugh.
Salt-pans used for making salt - - - - -	5483	4th April 1827	Joseph Tilt.
Constructions of boilers for evaporating saline and other solutions for crystallization - - - }	10,221	6th June 1844	{ William Higham. David Bellhouse.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SEWING, EMBROIDERING, AND TAMBOURING.</b>			
<b>I.—Sewing-machines, Loom and other Embroidery.</b>			
Working fine thread in needlework, after the manner of Dresden needlework.	701	24th June 1755	Charles Frederick Weisen-thal.
New species of embroidery for clothes, to be manufactured in gold or silver, on silk ribbon, and woollen, linen, cotton or mohair, to match any colour; "Loom embroidery."	955	22nd March 1770	Robert Alsop.
Tambouring or raising flowers, figures, or other ornaments, on muslins, lawns, silks, woollens, or mixed cloths.	2769	30th May 1804	John Duncan.
Machine for sewing, &c., leather gloves - - -	3012	20th Feb. 1807	James Winter.
Machine for sewing, &c., leather gloves - - -	4027	19th Dec. 1821	James Winter.
Machinery for embroidering or ornamenting cloths, stuffs, and other fabrics.	5788	2nd May 1829	Henry Bock.
Machine for embroidering cloth, stuffs, or other fabrics made from silk, cotton-wool, flax, or hemp - - - - -	6931	14th Nov. 1835	{ James Cropper. John Brown Milnes.
Producing embroidery or ornaments on muslins, silks, and certain other fabrics.	7326	29th Nov. 1836	William Sneath.
Producing ornamental or tambour work in the manufacture of gloves.	8948	4th May 1841	{ Edward Newton. Thomas Archbold.
Machinery for applying fringes to shawls and other articles - - - - -	10,102	14th March 1844	{ Samuel Cunliffe Lister. James Ambler.
Machinery for sewing all kinds of cloth or other materials.	10,134	2nd April 1844	Leonard Bostwick.
Machinery for sewing - - - - -	11,025	6th Jan. 1846	Arthur Eldred Walker.
Machinery for sewing or stitching various fabrics -	11,464	1st Dec. 1846	William Thomas.
Machinery for sewing and embroidering - - -	12,080	9th Feb. 1848	Jean Marie Magnin.
Manufacture of stays; fastening and connecting fabrics and garments [ <i>machinery for sewing and tambouring</i> ].	12,221	26th July 1848	William Thomas.
Manufacture of stays and other parts of dress [ <i>apparatus for producing a tambour stitch</i> ] - - -	12,736	9th Aug. 1849	{ William Thomas. John Marsh.
Sewing-machinery, or apparatus for sewing, embroidering, and uniting or ornamenting by stitches, various descriptions of textile fabrics.	12,752	30th Aug. 1849	Charles Morey.
Instrument to facilitate the stitching or sewing of woven fabrics.	12,842	13th Nov. 1849	Robert Parnall.
Weaving [ <i>loom-sewing, or working figures into cloth by means of small bobbins during the process of weaving</i> ]	13,038	15th April 1850	Robert Reid.
Sewing-machines - - - - -	13,321	7th Nov. 1850	John Alexander Lerow.
Machinery or apparatus for sewing - - - - -	13,325	7th Nov. 1850	David Christie.
Sewing-machine - - - - -	13,494	7th Feb. 1851	Frederick R. Robinson.
Embroidering-machines, and apparatus used in connection therewith.	14,161	10th June 1852	Henry Houldsworth.
Fixing, extending, and holding cloth to receive embroidery;—apparatus applicable thereto - - -	14,240	27th July 1852	{ Henry Houldsworth. James Houldsworth.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SEWING, &amp;c.—continued.</b>			
Machinery for stitching, either plain or ornamentally	14,256	10th Aug. 1852	Edward Joseph Hughes.
Machinery or apparatus for sewing [ <i>double-looped stitches</i> ].	14,328	19th Oct. 1852	William Edward Newton.
[For sewing Boots, see "BOOTS AND SHOES."]			
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<b>II.—Needles and Thimbles for Sewing.</b>			
Machine for making thimbles for men, women, and children.	319	4th April 1693	—— Lofting.
Making needles - - - - -	1097	10th June 1775	William Sheward.
Finishing needle-eyes - - - - -	1883	9th June 1789	William Sheward.
Making needles, bodkins, netting-needles, and sail-needles.	2063	8th Sept. 1795	William Bell.
Making needles - - - - -	3571	2nd June 1812	John Scambler.
Making thimbles - - - - -	4077	1st Nov. 1816	John Piercy.
Machinery to be used in the manufacture of } needles - - - - - }	6513	21st Nov. 1833	{ Daniel Ledsam. William Jones.
Machinery for making needles - - - - -	7034	17th March 1836	John Birkby.
Making needles - - - - -	7488	25th Nov. 1837	Samuel Cocker.
Making needles; machinery employed therein -	7923	3rd Jan. 1839	Abel Morrall.
Manufacture of needles - - - - -	8606	17th Aug. 1840	Luke Hebert.
Manufacture of thimbles and finger-shields -	10,743	28th June 1845	Alphonse Le Mire De Normandy.
Process of manufacturing needles - - - - -	12,370	16th Dec. 1848	Henry Walker.
Thimbles - - - - -	13,941	12th Nov. 1850	Charles Marsden.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE PREVENTION—CONSUMPTION OF FUEL.</b>			
<b>I.—Consuming Smoke, supplying Stoves, economizing and consuming Fuel.</b>			
Ovens for saving wood - - - -	94	23rd June 1636	{ Robert Lindsey. John Hobart.
Saving fuel in heating vessels containing water, and other liquids.	486	21st July 1726	Jacob Rowe.
Method to save coals or other fuel in boiling brine and making it into salt.	488	16th Jan. 1727	John Wayt.
Method of applying the heat of fire made of pit coal, wood, or turf, to a much greater advantage than hitherto practised, by extending the heat of one and the same fire to two, three, or more furnaces.	505	21st Nov. 1728	John Payne.
Method of heating and boiling water and other liquors with far less expense than by any method now in use, which will be of great service in working engines for raising water by fire; also brewing, distilling, and all other uses where great fires are required; method of drying malt with any sort of fuel [ <i>saving fuel</i> ].	513	7th Aug. 1729	John Allen.
Saving fuel in the manufacture of common salt -	612	18th April 1745	{ John Kay. Joseph Stell.
Double concave boiler with a flanch for raising steam by fire, to work atmospheric engines for raising water and other purposes [ <i>by means of which such engines may be worked at much less expense than heretofore</i> ] - - - -	634	12th July 1748	{ Moses Hadley. Thomas Stephens.
Double and single kettles, furnaces and boilers made of wrought iron plate [ <i>saving fuel</i> ].	688	31st Jan. 1754	William Johnson.
Method of raising steam for working fire engines [ <i>saving fuel</i> ].	709	27th May 1756	John Wright.
Method of treating all kinds of fluids by a new mechanical contrivance, whereby the fire is applied in a manner hitherto unpractised [ <i>and fuel saved</i> ].	844	25th March 1766	Robert Fall.
Method of making fire stoves and registers, which will remedy all or most of the inconveniences heretofore attending them with respect to heat and otherwise, and with little variation may be applied to other advantageous purposes [ <i>saving fuel</i> ] -	880	14th July 1767	{ Alexander Brodie. Richard Williams.
Consumption of fuel in steam engines - - -	913	5th Jan. 1769	James Watt.
Iron oven that is moveable at all times, and which bakes bread or any pies or tarts in the utmost perfection, which oven may be set in any room without danger of fire, and the expense of the firing to be used in the baking will not exceed one penny an hour; also a stove of the exact form of the oven which is moveable instantly while in use and will heat or air rooms and other places [ <i>for heating with four times less fuel than usual</i> ].	944	9th Dec. 1769	Richard Hornbuckle.
Constructing and setting boilers of any dimensions for the use of fire engines, saltworks, brewhouses, distilleries, soaphouses, sugar houses, and sugar works [ <i>saving fuel</i> ].	1058	17th Nov. 1773	Christopher Chisel.
Stove or grate for warming rooms, churches, or halls, with power of increasing or diminishing the heat thereof, and without consuming so much fuel as other stoves.	1304	21st Aug. 1781	James Sharp.
Making and manufacturing fire-grates - - -	1361	25th March 1783	Joseph Langmead.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Certain methods of constructing and adapting coppers, boilers, tubes, and other hollow bodies for the more effectual means of heating water and worts; rendering such coppers, boilers, tubes, and other hollow bodies as are employed in the breweries and distilleries steam and air tight [ <i>economizing heat</i> ].	1455	17th Nov. 1784	Sutton Thomas Wood.
Stove for coppers, furnaces, malhouses, and all other places and manufactories where that species of stove or fire-place commonly called copper holes or stoke holes are made use of, which will not be liable to be out of repair, but is infinitely more durable than any now in use, and has the peculiar advantage of saving fuel, time, and labour.	1477	3rd May 1785	James Phillips.
Improvements in furnaces or fire-places whereby greater effects are produced from the fuel and the smoke is in a great measure consumed.	1485	14th June 1785	James Watt.
Fire grate and utensils for cooking, boiling, and warming all sorts of fluids upon an improved principle, whereby much fuel will be saved.	1589	1st Feb. 1787	James Tate.
Machine called the "British Boiler," to be used in all household purposes where boiling is required, particularly applicable and beneficial to all trades and manufactures where boiling, washing, distilling, or evaporating, and in all mills and works where the power of steam is made use of, and upon all occasions where any liquid, sand, or substance is required to be heated, as it will be a most material saving in the article of fuel of all kinds.	1590	3rd Feb. 1787	John Reinecke.
Universal and perpetual principles of saving fuel in heating, boiling, or evaporating fluids.	1685	9th June 1789	Mary Howson.
Conveying the heat arising from coke ovens (by a particular construction of such ovens and flues adjoining thereto or connected therewith,) for the working of steam engines, baking of bread, meat, or other food, calcining ores and metals, making brass and steel, also for the purpose of warming rooms, staircases, or large buildings, heating water for baths, applicable to many other useful purposes and manufactories requiring the assistance of light and heat, by which means the expense of coal or other fuel is entirely or in the greater part saved.	1689	23rd June 1789	The Right Honourable Henry Seymour Conway.
Heating the boilers of steam engines with a smaller quantity of fuel than is now used for that purpose, and also by the fires used in such boilers calcining ores at the same time.	1758	8th July 1790	Roger Wearn.
Engine for lessening the consumption of fuel in fire engines or steam engines.	1760	17th July 1790	Adam Heslop.
Construction of a grate to be used in or out of a chimney with an air flue or air flues in the cheeks and back, whereby the fuel burnt in it will have the effect of giving a brighter and stronger fire than is produced in chimney grates now in use; and all or nearly all of the smoke issuing from such fuel will be consumed in and by the fire in such grate.	1798	18th March 1791	Benjamin Charles Collins.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Producing steam by means of a machine to be used in engines instead of the common boiler, and also of applying the same machine in working engines of every description where steam is used, so as to raise and produce a very large quantity of steam with very little fuel, upon principles not heretofore put in practice.	1808	24th May 1791	John Roger Teachemacher.
Engine for saving fuel in steam-engines - - -	1812	10th June 1791	James Sadler.
Communicating heat or warmth to hot-houses, green-houses, churches, and dwelling houses, manufactories, and all other buildings in any degree required for either of those purposes [ <i>by means of a boiler constructed to lessen the consumption of fuel.</i> ]	1816	7th July 1791	John Hoyle, junior.
Machinery and operations for saving fuel in evaporating water from solutions of salts.	1883	21st May 1792	David Frearson.
Steam-engine; method of generating steam, with its application to steam-engines, or for any other purpose where steam is used [ <i>saving fuel</i> ].	1943	25th March 1793	Matthew Pitts.
Modes of conducting steam and likewise of generating steam, whereby great advantages will arise from the saving of fuel.	1950	18th April 1793	John Dale.
Air furnace on an improved construction more simple in its principle and mechanism, less expensive in working and consumption of fuel, and productive of greater proportionable effect than hitherto discovered; useful in the manufacture of iron.	1966	6th Nov. 1793	William Taylor.
Applying fire to the coppers of brewers and distillers; managing the same in such manner as that very considerable expense will be saved in the article of fuel, and other material advantages gained thereby.	1995	17th June 1794	James Tate.
Moveable regulating machine or apparatus for the improvement of fire-places and flues [ <i>saving fuel</i> ].	2091	12th Jan. 1795	Thomas Crosbey
Stove or grate [ <i>for saving fuel</i> ] - - - - -	2056	1st July 1795	Richard Weightman.
Stove - - - - -	2139	3rd Oct. 1796	Ralph Wedgwood.
Furnace or fire-place calculated to save a great expense in fuel, for all purposes for which the same may be applied.	2152	13th Dec. 1796	Francis Lloyd.
Improving the process of brewing, distilling, boiling, evaporating, and raising and condensing steam or vapour from aqueous, spirituous, saccharine and saline fluids, which expedites the process, improves the quality, and causes a great saving in time and fuel.	2212	1st Feb. 1798	Richard Shannon.
Portable and moving furnace for the purpose of heating ovens of every description, whereby much fuel will be saved, and the oven rendered more safe and commodious.	2214	10th Feb. 1798	Robert Howden.
Applying fire for the purpose of heating boilers and other vessels where heat is required, and which may also be applied to other useful purposes [ <i>economizing heat</i> ].	2231	1st May 1798	Thomas Rowntree.
Machine for the purpose of saving fuel - - - -	2235	3rd May 1798	George Blundell.
Mode of applying fire to boilers, ovens, and other caldronic implements, whereby the power of the heat is very materially increased, and the consumption of fuel considerably diminished; "Carbo-frugalist."	2280	29th Jan. 1799	James Cooke.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Improvements on the steam-engine for the purpose of saving fuel.	2327	16th July 1799	Matthew Murray.
Method of constructing the backs and bottoms of fire grates, by which a great saving of coals will be obtained.	2344	3rd Oct. 1799	Anthony George Eckhardt.
Method of applying steam in the working of steam-engines, by which a great saving of fuel is obtained. }	2437	13th Aug. 1800	{ John Robertson. James Robertson.
Economizing fuel in the heating of houses - -	2474	10th Feb. 1801	James Anderson.
Fire or steam-engine and furnace [for saving fuel].	2493	30th April 1801	Richard Willcox.
Machines for cooking, and fire-places [saving fuel] -	2522	26th June 1801	George Stratton.
Method of constructing the air-pump and other parts of steam-engines, by which considerable saving will be made in the consumption of fuel, and an increased power obtained.	2531	11th Aug. 1801	Matthew Murray.
Ventilating dwelling houses, theatres, hospitals, and other buildings; ventilating, heating, and constructing every kind of buildings for forwarding or preserving trees, plants, shrubs, flowers, fruits, roots, and vegetables, on an improved principle, thereby reducing the consumption of fuel.	2549	3rd Nov. 1801	David Stewart.
Construction of steam-engines and boilers used for the purpose of generating steam, and other purposes [economizing heat].	2560	28th Nov. 1801	Joseph Bramah.
Dyeing by a new method of cooling the cloth and other piece-goods, and applying the fire for the purpose of heating the boiler or other vessels, and which may also be applied to the heating of other boilers or vessels where heat is required [and saving fuel].	2572	16th Jan. 1802	Joseph Lewis.
Steam-engine or boiler and air-pump [lessening the consumption of fuel].	2574	23rd Jan. 1802	Richard Willcox.
Apparatus for heating air equably to any requisite degree, and methods of applying the air so heated with peculiar advantage, efficacy and economy of fuel, to the numerous purposes for which stoves and kilns have heretofore been employed.	2583	19th Feb. 1802	Bryan Higgins.
Portable stove or kitchen for the purpose of dressing victuals [saving fuel].	2585	27th Feb. 1802	George Bodley.
Fire-grate - - - - -	2600	21st Dec. 1802	Matthew Wyatt.
Increasing the effect of steam-engines, and saving fuel in the working thereof.	2670	21st Dec. 1802	Thomas Saint.
Apparatus for converting water or other liquids into vapour or steam, for the working of steam-engines, and the heating of water or other liquids [and saving fuel].	2726	29th July 1803	Arthur Woolf.
Heating pans, vats, cisterns, and other vessels required to be heated by fuel and used for working steam-engines, and in the businesses of a calico printer, dyer, brewer, paper-maker, bleacher, salt-maker, tanner and other such like trades, by which much expense will be saved in the fuel to be used in the heating such vessels -	2746	31st Dec. 1803	{ Robert Cross. Thomas Southworth.
Fire-places calculated to save fuel, give a more general heat, and prevent chimneys from smoking.	2795	4th Dec. 1804	John Edwards.
Construction of fire-places, and adapting stoves and grates thereto [so as to save fuel].	2839	18th April 1805	Barrodall Robert Dodd.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Making steam-engine boilers, and boilers for various other purposes, and constructing the flue for conveying the heat to the same, whereby the consumption of fuel is considerably lessened.	2856	31st May 1805	Alexander Brodie.
Stove of a new construction; various improvements applicable to stoves, grates, and fire-places [ <i>economizing heat</i> ].	3049	11th June 1807	Allan Pollock.
Limekilns, whereby a very considerable saving is made in fuel, and the lime most perfectly burnt in a short time.	3234	9th May 1809	Nugent Booker.
Improved process for heating fluids for the purposes of art and manufacture.	3236	15th May 1809	William Johnson.
Method whereby heated water, steam, and air, can be rendered serviceable, and more serviceable for new purposes and every purpose for which they have been applied, with less fuel than is now used, especially for the purpose of working the steam-engine and warming and heating stoves.	3280	28th Nov. 1809	William Cornelius English.
Portable stove or furnace, which may be made of cast iron, forged or plate iron, or of other metals or materials, by which a current of air is heated and discharged so as to distribute the heat more equally than by stoves such as are in common use, and avoid the unpleasant smell which they produce [ <i>and for consuming smoke</i> ] - - -	3287	14th Dec. 1809	{ John Murray. Adam Anderson.
Kitchen fire-place [ <i>saving fuel</i> ] - - - -	3298	1st Feb. 1810	John Craigie.
Method for preventing smoke, dust, and the danger of fire, and for increasing and regulating the heat from stoves and chimney fire-places.	3331	2nd May 1810	William Clerk.
Accelerating the evaporation of liquid or fluid bodies, destroying the noxious and offensive effluvia arising from spent soap, lees, or other liquid, fluid, or solid substance, and generating an increased degree of heat without additional fuel.	3495	30th Oct. 1811	John Miers.
Lessening the consumption of steam and fuel in working fire-engines.	3645	30th Jan. 1813	Robert Dunkin.
Apparatus for the cooking or dressing victuals, and possessing other advantages in lessening the consumption of fuel.	3661	9th March 1813	Benjamin Merriman Coombs.
Vessels to be used for heating fluids and other substances [ <i>economizing heat</i> ].	3690	5th May 1813	Charles Broderip.
Improvements in stove-grates to prevent smoky rooms, and for obtaining increased heat from the same quantity of fuel.	3763	29th Nov. 1813	Isaac Willson.
Fire-pan, or fire-lamp, in which small or inferior coals may be consumed in the place of large or round coals, also a fire-grate or stove to be fixed at the bottom of the chimney in the ordinary mode, in which fire-grate or stove small or inferior coals may be consumed on all occasions and for all the same purposes as larger or round coals.	3763	21st Feb. 1814	John Buddle.
Steam-boiler and apparatus for the purpose of washing and cleansing clothes, and for warming or heating closets, laundries, and other rooms by the same [ <i>regulating combustion of fuel</i> ].	3790	12th March 1814	John Slater.
Improvements applicable to fire-places, stoves, &c. [ <i>saving fuel</i> ].	3873	6th Jan. 1815	John Cuttler.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Extracting from fuel a greater quantity of caloric than hath hitherto been acquired, and applying it to the purpose of warming the room in which the operation is conducted, and also other rooms by one single fire [ <i>by consuming smoke</i> ].	3875	16th Jan. 1815	Jean Frederic Marquis De Chabannes.
Mode or means of combining and applying principles already known, to the purpose of producing pure and fresh warm air, and of such mode or means of combination and application of the same principles to such purposes as aforesaid [ <i>for saving fuel</i> ].	3898	14th March 1815	Thomas Potts.
New plan for fire-places or furnaces for heating ovens and boilers, and the water or other liquids contained in such boilers, and for converting such water or other liquids into steam for the purpose of working engines, and for other uses in manufacture [ <i>saving fuel</i> ].	3905	8th April 1815	William Losh.
Machine or instrument for the better heating ovens	3935	24th June 1815	{ Samuel Balden. John Burtenshaw.
Effecting a saving in the consumption of fuel	3941	21st July 1815	Robert Copland.
Method of conducting the air and regulating the temperature in houses and other buildings, and warming and cooling either air or liquids in a much more expeditious and less expensive manner than hath hitherto been done; applicable to various useful purposes.	3963	5th Dec. 1815	Jean Frederic Marquis De Chabannes.
Apparatus for supplying grates and stoves with fuel	4001	23rd March 1816	{ Emerson Dowson. John Isaac Hawkins.
Effecting a saving in the consumption of coals or fuel by an improvement in the mode of setting and heating boilers of steam-engines and other bodies of different descriptions.	4007	23rd March 1816	Abraham Rogers.
Effecting a saving in the consumption of fuel [ <i>by an apparatus for supplying stoves</i> ].	4024	9th May 1816	Robert Copland.
Methods of generating and creating and applying power by means of steam or other fluids, elastic or non-elastic, for driving or working all kinds of machinery, including the steam-engines now in use, and which are applicable also to the condensing of steam and other aqueous vapours in distillation or evaporation, and are useful in various manufactories and operations where heat is employed as an agent, or when the saving of fuel is desirable.	4058	14th Aug. 1816	James Neville.
Constructing chimneys and supplying fires with fuel.	4073	1st Nov. 1816	Joseph Gregson.
Diminishing consumption of fuel	4081	16th Nov. 1816	Robert Stirling.
Method of saving fuel by an improvement in fire-places.	4147	5th Aug. 1817	George Stratton.
Effecting a saving of fuel by the application of certain articles hitherto unused for the purpose.	4304	10th Nov. 1818	James Ingledew.
Junction of tunnels in a steam-boiler, also new flues in the said steam-boiler or the furnace connected with its erection, the said steam-boiler to be for the purposes of lessening the consumption of fuel and the appearance of smoke.	4310	12th Nov. 1818	James Fraser.
Fire-grates, by which the combustion of smoke is more easily effected.	4316	5th Dec. 1818	Jeremiah Spencer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Steam-engines and furnaces of steam-engines, by which a saving in the consumption of fuel is effected, and the combustion of the smoke is more completely attained.	4367	29th June 1819	William Brunton.
Fire-grates denominated "economical fire-grates" -	4449	19th April 1820	William Brunton.
Lessening the consumption of fuel in steam-engines and furnaces;—consuming smoke.	4455	9th May 1820	Josiah Parkes.
Pneumatic stove for heating atmospheric air, and diffusing the same through houses, hothouses, greenhouses and other buildings, upon the principle of introducing a column of atmospheric air into a chamber containing a stove of a new and peculiar construction, thereby creating a reservoir of hot air capable of being diffused by means of flues throughout buildings of any dimensions.	4362	28th April 1819	Thomas Willcox.
Propelling; construction of engines and boilers applicable to propelling and other purposes [ <i>economizing heat</i> ].	4462	15th May 1820	John Barton.
Construction of furnaces for boilers of various descriptions; mode of feeding the same with fuel, which improvements are calculated to lessen the consumption of fuel, and to burn the smoke.	4472	6th June 1820	John Wakefield.
Apparatus for shutting fire-doors and air flues in steam-engine boilers, drying-pans, and brewing-pans, and other fire-doors and air-flues, calculated to save fuel, and for the more economical consumption of smoke.	4523	22nd Dec. 1820	William Pritchard.
Machinery for lessening the consumption of fuel in working steam-engines.	4539	27th Feb. 1821	Henry Penneck.
Means of transmitting heat [ <i>causing boiler-furnaces to move so as to distribute and economize the heat</i> ].	4541	5th March 1821	Jonathan Dickson.
Construction of boilers, whereby a considerable saving in fire is effected, and smoke rapidly consumed.	4544	16th March 1821	Henry Browne.
Machinery for supplying furnaces, steam-engine and other boilers with coal, coke, and fuel of every kind [ <i>by a pair of toothed rollers to be turned by a band to crush the coal or other fuel previous to its descent on to the fire-grate</i> ].	4610	9th Nov. 1821	John Bates.
Improvements connected with the production and agency of heat in furnaces and air-engines, distilling, evaporating and brewing apparatus [ <i>consuming smoke</i> ].	4615	14th Nov. 1821	Neil Arnott.
Mode of heating liquids in boilers and thereby accelerating and increasing the production of steam [ <i>economizing heat</i> ].	4633	7th Jan. 1822	Richard Ormrod.
Production of heat by the application of well-known principles not hitherto made use of in the construction of furnaces of steam-engines and of air-furnaces in general, whereby a considerable saving in the expenditure of fuel is obtained, and the total consumption of smoke may be effected.	4646	12th Feb. 1822	George Holworthy Palmer.
Process of consuming smoke - - -	4657	2nd March 1822	George Stratton.
Means of introducing coal on to fire grates - -	4685	26th June 1822	William Brunton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Machinery for supplying furnaces with fuel, reducing the consumption thereof, and the appearance of smoke, also saving labour [ <i>by a hopper above the furnace, containing the coal, a pair of grooved rollers to crush it, and a fan-formed scraper below to conduct it into the furnace</i> ].	4692	27th July 1822	John Stanley.
Construction of boilers for steam-engines [ <i>generating the steam partly in tubes surrounded by the fire of the furnace which consumes its smoke</i> ].	4712	18th Oct. 1822	{ Thomas Binns. Jonas Binns.
Method of producing and applying heat to, and constructing and erecting furnaces and other reservoirs for various purposes, and for effecting a saving in fuel, and producing a more complete combustion of smoke than at present takes place; as well as a better mode than any now in use of collecting and preserving any volatile substance contained in or combined with metallic ores or other substances in the operation of which heat is necessary.	4746	8th Jan. 1823	James Neville.
Means of obtaining the power of steam for the use of steam-engines; with reduced expenditure of fuel.	4747	8th Jan. 1823	William Johnson.
Setting or fixing of steam boilers or other coppers, by which a considerable saving of fuel will be effected, and the smoke more effectually consumed.	4754	14th Feb. 1823	Nathaniel Partridge.
Consuming smoke - - - - -	4834	18th Aug. 1823	Robert Higgin.
Method of applying heat for producing steam, and for various other purposes, whereby the expense of fuel will be lessened.	4840	4th Sept. 1823	James Surrey.
Furnace adapted to burn or consume fuel in a more economical and useful manner than has been hitherto practised.	4865	13th Nov. 1823	Robert Stein.
Furnace by which fuel is economized and the smoke consumed - - - - -	4870	20th Nov. 1823	{ Jacob Perkins. John Martineau, junior.
Mode of constructing and placing a coke oven under or contiguous to steam or other boilers, so as to make the heat arising from making coke or other intense combustion in the said oven subservient to the use of the boiler, instead of fuel used in the common way, and to exclude such heat from the boiler when required, without detriment to the operations of the oven.	4914	28th Feb. 1824	Maurice De Jough.
Generating steam; application of the same to various useful purposes [ <i>exposing a greater surface to the action of heat</i> ].	4950	13th May 1824	John Theodore Paul.
Generating steam [ <i>saving fuel</i> ] - - - - -	4974	15th June 1824	John McCurdy.
An improved and more economical method of generating steam, applicable to steam engines and to other useful purposes.	5006	7th Oct. 1824	Pierre Alegre.
Apparatus from which to feed fires with coal and other fuel.	5096	19th Feb. 1825	Edmund Lloyd.
Certain improvements on and additions to stoves or grates [ <i>for economizing fuel</i> ] - - - - -	5190	18th June 1825	{ George Atkins. Henry Marriott.
Construction of furnaces, stoves, grates, or fire places [ <i>for consuming smoke</i> ].	5257	15th Sept. 1825	Charles Jacomb.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Apparatus for raising or generating steam [and consuming smoke].	5270	21st Oct. 1825	Goldsworthy Gurney.
Certain apparatus for the concentration and crystallization of aluminous and other saline and crystallizable solutions; part of which apparatus may be applied to the general purposes of evaporation, distillation, inspissation and desiccation, and especially to the generating of steam [economizing heat].	5327	7th Feb. 1825	Josias Christopher Gamble.
Boiler or apparatus for generating steam with less expenditure of fuel.	5344	14th Nov. 1826	James Neville.
Combination of machinery for feeding fire with fuel; which machinery is applicable to other purposes.	5391	24th July 1826	James Barron.
Method or methods of applying heat to certain useful purposes [economizing heat] - - -	5427	13th Dec. 1826	{ Charles Pearson, junior. Richard Witty. William Gillman.
Apparatus for heating air by means of steam -	5462	12th Feb. 1827	William Stratton.
Constructing boilers for steam-engines [economizing fuel].	5447	11th Jan. 1827	James Fraser.
Construction of furnaces, by which they consume their own smoke.	5601	15th Jan. 1828	James Gilbertson.
Method of and an apparatus for generating steam and various gases, to produce motive power, and for other useful purposes [promoting combustion of fuel].	5659	31st May 1828	Samuel Hall.
Construction of boilers or generators of steam [saving fuel].	5714	9th Oct. 1828	Thomas Tippet.
Burning or consuming smoke - - - -	5735	15th Dec. 1828	John Forbes.
Mode or method of converting liquids into vapour or steam [and saving fuel].	5763	31st Jan. 1829	{ John Braithwaite. John Ericsson.
Apparatus and machinery for conducting heat, and applying the same in various operations [saving fuel].	5766	5th Feb. 1829	Joseph Rayner.
Improvements on or additions to fire-places ["Fonziene" for promoting combustion of fuel].	5841	9th Sept. 1829	Joseph Ange Fonzi.
Boilers applicable to steam-engines, and to other purposes [apparatus for supplying the furnace with fuel].	5857	15th Oct. 1829	William Church.
Construction of steam-engine and other boilers or generators [heating a larger surface than hitherto] - - - -	5927	14th April 1830	{ William Alltoft Summers. Nathaniel Ogle.
Apparatus for economizing fuel in heating water and air, applicable to various purposes.	5931	24th April 1830	Paul Descroizilles.
Boilers and apparatus connected therewith, applicable to steam-engines, and other purposes [consuming smoke].	5956	19th July 1830	William Taylor.
Construction of a furnace or furnaces for generating heat; apparatus for the application of heat to various useful purposes [burning refuse small coal].	6026	4th Nov. 1830	Joel Benedict Nott.
Apparatus for propelling boats [supplying fuel to the furnaces].	6041	29th Nov. 1830	William Church.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Apparatus for economizing steam, and for other purposes; application thereof to the boilers of steam-engines employed on board packet-boats and other vessels [ <i>for saving fuel</i> ].	8080	15th Jan. 1831	Samuel Seaward.
Apparatus for heating apartments [ <i>saving fuel</i> ] -	8083	21st Feb. 1831	Richard Trevithick.
Generating steam or vapour, applicable as a moving power, and to arts and manufactures; vessels or machinery employed for that purpose [ <i>and consuming smoke</i> ].	8103	2nd April 1831	James Slater.
Grates and other fire-places [ <i>economizing heat</i> ] -	8135	13th July 1831	James Pycroft.
Method of using fuel so as to burn smoke - -	8141	20th July 1831	Henry Lister Maw.
Steam-engine and boiler, and apparatus or machinery connected therewith, applicable to propelling vessels, carriages, and other purposes [ <i>economizing fuel</i> ].	8181	16th Sept. 1831	George Holworthy Palmer.
Construction of a furnace or furnaces for generating heat; apparatus for the application of heat to various useful purposes,—being further improvements upon a patent obtained by the petitioner, dated the 4th day of November, 1830 [ <i>economizing fuel</i> ].	8205	22nd Dec. 1831	Joel Benedict Nott.
Manufacturing fire-grates [ <i>economizing heat</i> ] -	8324	22nd Oct. 1832	Shearman Converse.
Construction of steam-boilers [ <i>economizing heat</i> ] -	8378	29th Jan. 1833	John Linton.
Engine for producing motive-power, whereby a greater quantity of power is obtained from a given quantity of fuel than heretofore.	8409	4th April 1833	John Ericsson.
Steam-boilers, and arrangement of machinery attached thereto, applicable to land-carriages [ <i>supplying fuel</i> ].	8421	8th May 1833	James Fraser.
Boilers for generating steam [ <i>economizing heat</i> ] -	8449	18th July 1833	{ John Squire. Francis Macerone.
Apparatus for consuming smoke - - - -	8458	12th Aug. 1833	William Wigston.
Boilers for producing steam for the working of steam-engines [ <i>economizing heat</i> ].	8482	7th Oct. 1833	Joseph Maudslay.
Apparatus and means of generating steam; means of producing heat [ <i>supplying fuel and obtaining more perfect combustion</i> ].	8503	5th Nov. 1833	Richard Holme.
Construction of furnaces for generating heat; also construction of apparatus or vessels for applying heat to various useful purposes [ <i>consuming smoke</i> ].	8509	19th Nov. 1833	John Cooper Douglas.
Supplying stoves with heated air, without bellows or blow-pipe.	8519	7th Dec. 1833	Ernst Wolff.
Apparatus for heating and ventilating churches, conservatories, houses, and other buildings or places [ <i>supplying fuel</i> ].	8544	18th Jan. 1834	William Morgan.
Supplying heated air in order to support combustion in enclosed fire-places.	8548	23rd Jan. 1834	Ernst Wolff.
Boilers for steam-engines and other uses [ <i>economizing heat</i> ].	8547	23rd Jan. 1834	William Thomas Yates.
Metallic pistons, pump-buckets, and boilers of steam-engines [ <i>economizing heat</i> ].	8606	12th May 1834	John M'Dowall.
Construction of grates, stoves and furnaces applicable to steam-engines and many useful purposes [ <i>supplying fuel and obtaining more perfect combustion of coal</i> ].	8617	24th May 1834	John George Bodmer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Furnaces [ <i>promoting more perfect combustion of fuel</i> ].	6672	2nd Sept. 1834	John Chanter.
Kitchen or other grates or ranges, "Week's Cooking Apparatus" [ <i>economizing fuel</i> ].	6677	20th Sept. 1834	Edward Weeks.
Saving fuel and burning smoke, applicable to furnaces and stoves.	6681	25th Sept. 1834	Richard Witty.
Boilers for generating steam [ <i>economizing heat</i> ]	6693	11th Oct. 1834	Thomas Searle.
Apparatus for feeding grates of steam-engines with fuel	6703	22nd Oct. 1834	{ John Stanley. John Walmsley.
Generating steam [ <i>economizing heat</i> ]	6819	23rd April 1835	John M'Curdy.
Boilers applicable to steam-engines and other purposes.	6823	28th April 1835	Charles William Rowley Rickard.
Apparatus for consuming smoke and economizing fuel in furnaces, particularly applicable to furnaces of marine steam-engines.	6858	10th July 1835	Richard Coad.
Box for holding coals	6879	12th Aug. 1835	William Evatt Wright.
Boilers for generating steam, or heating water or other fluids for useful purposes.	6897	24th Sept. 1835	Joel Spiller.
A new combination of parts forming an improved furnace for consuming smoke and economizing fuel	6920	2nd Nov. 1835	{ John Chanter. John Gray.
Locomotive steam carriages, partly applicable to steam-engines and boilers in general [ <i>consuming smoke</i> ].	6955	16th Dec. 1835	William Carpmel.
Steam generators [ <i>increasing combustion</i> ]	7003	16th Feb. 1836	Charles Schafhautl.
Economizing fuel in ships' hearths, or cooking apparatus.	7011	23rd Feb. 1836	Francois Peyre, junior.
Construction of boilers for steam-engines [ <i>exposing an extended surface to the action of the fire</i> ].	7055	7th April 1836	John Holmes.
Steam-engines; generating steam; evaporating and boiling fluids for certain purposes.	7059	12th April 1836	Jacob Perkins.
Furnaces for steam-engine boilers and other purposes [ <i>consuming smoke</i> ].	7121	18th June 1836	John Hopkins.
Steam boilers [ <i>saving fuel</i> ]	7145	13th July 1836	Elisha Haydon Collier.
Steam-engines, furnaces, and boilers, partly applicable to other useful purposes [ <i>consuming smoke</i> ].	7242	3rd Dec. 1836	Jacob Perkins.
Method of heating coppers, stills, and boilers [ <i>economizing heat, saving fuel</i> ].	7299	16th Feb. 1837	John Walker.
Application of the products of combustion in generating and aiding steam for giving motion to steam-engines [ <i>supplying fuel and economizing heat</i> ].	7303	16th Feb. 1837	John Isaac Hawkins.
Steam-engines; boilers and furnaces used therein, and for other purposes.	7305	17th Feb. 1837	Henry Elkington.
Furnaces for locomotive engines and other purposes [ <i>consuming smoke</i> ]	7306	17th Feb. 1837	{ John Chanter. John Gray.
An improvement applicable to steam-engines and steam-generators, having for its object economy of fuel.	7392	17th June 1837	James Leonard Clement Thomas.
Construction of boilers for the generation of steam and heating water or other fluids [ <i>with decreased consumption of fuel</i> ]	7422	24th Aug. 1837	{ William Hearn. William Davies.
Apparatus or furnace for economizing fuel, and for more effectually consuming the smoke or gases arising therefrom.	7428	31st Aug. 1837	James Neville.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Boiler or apparatus for generating steam [ <i>saving fuel</i> ].	7436	21st Sept. 1837	William Joseph Curtis.
Steam-engines; generating steam [ <i>economizing heat</i> ]	7439	30th Sept. 1837	Jonathan Dickson.
Method of generating steam power [ <i>economizing heat</i> ].	7458	4th Nov. 1837	John Upton.
Steam-engines, boilers and furnaces for the generation of steam, and for other purposes [ <i>and saving fuel</i> ].	7467	11th Nov. 1837	James Slater.
Apparatus for heating churches, warehouses, shops, factories, hothouses, carriages, and other places requiring artificial heat [ <i>regulating combustion of fuel</i> ].	7509	16th Dec. 1837	Thomas Joyce.
Applying heat to the manufacture of alkalies and salts; and for smelting and otherwise working ores, metals, and earths [ <i>economizing fuel</i> ].	7555	30th Jan. 1838	Charles Flude.
Generation of steam [ <i>saving fuel</i> ] - - - - -	7562	8th Feb. 1838	John Melville.
Method of consuming smoke in places where fire is used, and for economizing fuel, also for applying air heated or cold to blasting or smelting furnaces.	7578	24th Feb. 1838	Michael Wheelwright Ivison.
Apparatus for applying prepared fuel to culinary and domestic purposes.	7593	15th March 1838	Thomas Joyce.
Stoves - - - - -	7611	10th April 1838	Thomas Watson.
Applying prepared fuel for the purpose of generating steam and evaporating fluids.	7634	5th May 1838	Thomas Joyce.
Economizing fuel in furnaces or closed fire-places -	7656	31st May 1838	Miles Berry.
Constructing and adapting boilers for marine, stationary, and locomotive engines, and adapting and applying boilers to steam vessels [ <i>economizing heat</i> ].	7743	26th July 1838	Joseph Price.
Steam-engines; heating or evaporating fluids or gases; generating steam or vapour [ <i>consuming smoke</i> ].	7754	30th July 1838	Samuel Hall.
Furnaces for the consumption of smoke and saving of fuel, applying them to the generation of steam, smelting metals, and other works.	7765	7th Aug. 1838	Samuel Hall.
Heating hothouses and other buildings [ <i>economizing heat</i> ].	7768	10th Aug. 1838	Thomas Corbett.
Consuming smoke, thereby economizing fuel and heat in steam-engine or other furnaces or fire-places.	7769	14th Aug. 1838	David Cheetham, junior.
Certain descriptions of stoves [ <i>regulating combustion</i> ]	7791	31st Aug. 1838	{ John Earle Huxley. John Earle Huxley, jun. John Oliver.
Furnaces for steam boilers [ <i>smoke burner</i> ] - -	7805	13th Sept. 1838	{ John Chanter. John Grantham.
Construction of ovens and heated air stoves [ <i>economizing heat</i> ].	7823	27th Sept. 1838	John White.
Construction of boilers, furnaces, and stoves [ <i>economizing fuel</i> ].	7824	8th Oct. 1838	John Bourne.
Supplying air for promoting and supporting the combustion of fire in close stoves and furnaces, and economizing fuel therein.	7834	17th Oct. 1838	George Harrison.
Consuming smoke and thereby economizing fuel and heat in furnaces or fire-places.	7841	31st Oct. 1838	Paul Chappé.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Applying heat for generating steam, and for general manufacturing and other purposes where heat is required, also supplying boilers with hot water [consuming smoke].	7851	3rd Nov. 1838	Charles Flude.
Apparatus for feeding furnaces and fireplaces [combustion of smoke and gases arising therefrom].	7858	8th Nov. 1838	John Jukes.
Furnaces for the consumption of fuel - - -	7861	8th Nov. 1838	Henry Huntley Mohun.
Consuming smoke and economizing fuel in steam-engine or other furnaces or fireplaces.	7867	8th Nov. 1838	James Drew.
Furnaces and fireplaces for consuming anthracite and other fuel, for generating steam, evaporating, smelting, and heating iron and other metals [saving fuel].	7888	1st Dec. 1838	John Player, junior.
Methods of generating steam, and applying the same to the evaporation and boiling of fluids, which methods are applicable to steam-engines and other purposes where steam is or may be applied.	7890	1st Dec. 1838	John M'Curdy.
Stoves - - - - -	7947	22nd Jan. 1839	George Stevens.
Apparatus for consuming smoke - - - -	7969	19th Feb. 1839	Richard Prosser.
Furnaces for consuming smoke and economizing fuel.	7974	21st Feb. 1839	Thomas Hall.
Boilers for economizing fuel - - - - -	8006	20th March 1839	{ John Ruthven. Morris West Ruthven.
Stoves and grates [economizing heat] - - -	8065	10th May 1839	{ William Harper. Thomas Walker.
Furnaces or apparatus for applying the heat of fuel [economizing fuel and burning anthracite].	8095	4th June 1839	Charles Andrew Caldwell.
Steam-engines, steam-boilers, and condensers [economizing heat].	8111	17th June 1839	Henrik Zander.
Furnaces designed to economize fuel and heat -	8118	22nd June 1839	Charles Wye Williams.
Grates used in steam-engines or other furnaces or fireplaces [increasing the combustion and heating power of the fuel].	8178	1st Aug. 1839	William Miller.
Stoves for warming the air in buildings, also applicable for cooking, or communicating heat for other useful purposes.	8202	21st Aug. 1839	Stephen Joyce.
Stoves or fireplaces [economizing heat] - - -	8215	9th Sept. 1839	Frederick Brown.
Construction of furnaces [economizing heat and saving fuel].	8244	19th Oct. 1839	James Yates.
Locomotive and other steam-engines, in respect of the boilers, and the conveying steam therefrom to the cylinders [economizing heat] - - -	8277	21st Nov. 1839	{ Robert Hawthorn. William Hawthorn.
Furnaces or fireplaces for the better consuming fuel.	8307	9th Dec. 1839	John Jukes.
Construction of fire-grates or fireplaces, applicable to various purposes [economizing fuel and heat].	8360	23rd Jan. 1840	Alexander Hett.
Construction of furnaces and boilers [economizing heat].	8370	31st Jan. 1840	Philippe Marie Moindron.
Kitchen ranges for culinary purposes [economizing the consumption of fuel] - - - - -	8373	5th Feb. 1840	{ Wilkinson Steele. Patrick Sanderson Steele
Steam-engines and steam-boilers [consuming smoke]	8432	16th March 1840	Thomas Craddock.
Means employed in generating steam, vapours or fluids [combustion of fuel].	8474	15th April 1840	Thomas Robinson Williams.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Generating and condensing steam; heating and evaporating fluids [ <i>economizing heat</i> ] - - -	8550	24th June 1840	{ John Aitchison. Archibald Hastie.
Boilers and furnaces [ <i>lessening the consumption of fuel</i> ].	8800	8th Aug. 1840	Samuel Howard.
Construction of furnaces [ <i>consuming smoke and economizing fuel</i> ].	8858	5th Nov. 1840	Andrew Kurtz.
Construction of furnaces and boilers [ <i>economizing heat</i> ].	8703	17th Nov. 1840	Charles Wye Williams.
Furnaces [ <i>consuming smoke</i> ] - - - - -	8716	25th Nov. 1840	Junius Smith.
Applying heat to certain steam boilers [ <i>through the medium of coke ovens</i> ].	8736	16th Dec. 1840	James Davis.
Combustion of fuel and smoke - - - - -	8792	14th Jan. 1841	Samuel Hall.
Method of supplying fuel to the fireplaces or grates of steam-engine boilers, brewers' coppers, and other furnaces, also to fireplaces for domestic purposes, and generally the supplying of fuel to fireplaces or furnaces, in such manner as to consume the smoke.	8794	16th Jan. 1841	Edward Foard.
Construction of steam-boilers, and furnaces for heating the same [ <i>consuming smoke</i> ].	8813	26th Jan. 1841	Nathan Waddington.
Furnaces or fireplaces for the better consuming fuel.	8829	3rd Feb. 1841	Thomas Young.
Fire-grates and parts connected therewith for furnaces for heating fluids [ <i>economizing fuel</i> ].	8853	22nd Feb. 1841	Anthony Bernhard Von Rathen.
Construction of flues for steam-boiler and other furnaces.	8923	6th April 1841	Joseph Apsey.
Construction and arrangement of fireplaces and furnaces applicable to various useful purposes [ <i>for saving fuel</i> ].	8934	24th April 1841	Floride Heindryckx.
Producing heat from the combustion of certain kinds of fuel [ <i>facilitating the combustion of fuel</i> ].	8979	8th June 1841	James Colley March.
Producing and applying heat [ <i>consuming smoke</i> ] -	9008	26th June 1841	Moses Poole.
Construction of chimneys, flues, and air-tubes, with the stoves and other apparatus connected therewith, for the purpose of preventing the escape of smoke into apartments - - - - -	9026	13th July 1841	{ William Henry Phillips. David Hickinbotham.
High-pressure and other steam-boilers, combined with a new mode of supplying them with water [ <i>economizing heat</i> ].	9037	28th July 1841	Anthony Bernhard Von Rathen.
Furnaces or fireplaces [ <i>economizing fuel</i> ] - - -	9067	4th Sept. 1841	John Jukes.
Stoves or fireplaces [ <i>applying air to support combustion</i> ].	9103	24th Sept. 1841	Frederick Brown.
Construction of boilers for generating steam; application of steam to mechanical power.	9168	9th Dec. 1841	John Hall.
Apparatus for heating or lighting apartments and other like purposes [ <i>consuming smoke</i> ].	9173	9th Dec. 1841	Robert Henderson.
Steam-boiler [ <i>economizing fuel</i> ] - - - - -	9212	11th Jan. 1842	Edward Hall.
Construction of furnaces, and effecting the combustion of the inflammable gases from coal.	9215	11th Jan. 1842	Charles Wye Williams.
Steam-engines and boilers - - - - -	9260	15th Feb. 1842	John Lewthwaite.
Boilers, furnaces, and steam-engines - - -	9293	10th March 1842	William Edward Newton.
Apparatus for heating public and private buildings [ <i>consuming smoke</i> ].	9307	21st March 1842	Robert Hazard.
Combustion of fuel and smoke - . . . .	9345	9th May 1842	Samuel Hall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Consuming or preventing smoke, and economizing fuel in steam-engines and other furnaces.	9412	7th July 1842	William Prichard, senior.
Steam-engines and steam-boilers [ <i>economizing heat</i> ]	9439	9th Aug. 1842	David Napier.
Stoves - - - - -	9440	9th Aug. 1842	Thomas Walker.
Furnaces [ <i>consuming smoke</i> ] - - - - -	9476	22d Sept. 1842	John Juckes.
Using certain materials as fuel and for other purposes.	9489	13th Oct. 1842	Charles Thomas Holcombe.
Composition and preparation to promote the ignition and combustion of fuel in stoves, furnaces and grates.	9509	5th Nov. 1842	John Rothwell.
Method of feeding steam-engine and other furnaces	9516	8th Nov. 1842	Henrik Zander.
An improved stove [ <i>economizing heat</i> ] - - -	9540	6th Dec. 1842	William Pope.
Improvements applicable to the burning anthracite or stone-coal and other fuel for the purpose of obtaining heat - - - - -	9639	21st Feb. 1843	{ John Kymer. Thomas Hodgson Leighton.
Combustion of fuel and combustion of smoke -	9774	15th June 1843	Frederick William Eggleston.
Applying heat from various combustibles to manufacturing and other useful purposes [ <i>saving fuel</i> ].	9784	15th June 1843	George Robins Booth.
Construction of boilers otherwise generators, for producing steam [ <i>saving fuel</i> ].	9800	30th June 1843	Charles Tetley.
Steam-engines and boilers; generating steam [ <i>economizing heat</i> ].	9866	15th Aug. 1843	George Beunetts.
Construction of furnaces and flues [ <i>consuming smoke</i> ].	9885	28th Sept. 1843	Elisha Haydon Collier.
Grates, furnaces, and boilers [ <i>promoting combustion of fuel</i> ].	9899	5th Oct. 1843	John George Bodmer.
Construction and arrangement of furnaces or fireplaces, applicable to various useful purposes [ <i>consuming smoke and saving fuel</i> ].	9911	18th Oct. 1843	Julius Adolph Detmold.
Furnaces or fireplaces [ <i>economizing fuel</i> ] - - -	9925	4th Nov. 1843	William Edward Newton.
Furnaces or fireplaces [ <i>consuming smoke</i> ] - - -	9936	9th Nov. 1843	George Holmes.
Apparatus to be employed for drying, evaporating, distilling, torrefying, and calcining [ <i>economizing fuel</i> ].	10,053	14th Feb. 1844	Andrew Kurtz.
Steam-boiler furnaces, or fireplaces [ <i>producing greater intensity of heat</i> ].	10,107	14th March 1844	Moses Poole.
Stoves [ <i>economizing fuel</i> ] - - - - -	10,138	10th April 1844	James Murdoch.
Stationary steam-boilers and furnaces and flues connected therewith [ <i>consuming smoke</i> ] - - -	10,166	30th April 1844	{ William Fairbairn. John Hetherington.
Mechanical combinations by means of which economy of power and fuel are obtained in the use of the steam-engine.	10,201	23rd May 1844	John Taylor.
Construction of furnaces [ <i>consumption of fuel</i> ] -	10,254	10th July 1844	William Beddington, junior.
Applying heat for generating steam and for other purposes; may also be employed to obtain power.	10,263	17th July 1844	Jacques Bidault.
Construction of chimneys and flues; and furnaces, stoves, grates, or fireplaces generally [ <i>economizing heat</i> ].	10,269	24th July 1844	General George Wilson.
Economizing and applying heat obtained from known processes.	10,303	29th Aug. 1844	Jean Albert Palmaert.
Furnaces, fire-bars, hot-air generators, and flues [ <i>consuming smoke</i> ] - - - - -	10,309	12th Sept. 1844	{ John Chanter. George Lodge.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Production and use of steam, applicable to steam-engines [ <i>economizing heat</i> ].	10,357	17th Oct. 1844	John Grieve.
Heating ovens and kilns used in the manufacture of china, bricks, tiles, and other articles of earthenware [ <i>economizing heat and fuel</i> ].	10,431	12th Dec. 1844	Robert Heath, junior.
Apparatus to be used for burning coal; also apparatus to be used for applying heat to effect evaporation of certain solutions [ <i>consuming smoke</i> ]	10,469	16th Jan. 1845	William Hunt.
Apparatus for consuming smoke - - - - -	10,491	23rd Jan. 1845	John Clay.
Stoves and apparatus used in consuming fuel and in ventilating.	10,501	28th Jan. 1845	John Leslie.
Stoves and apparatus for heating [ <i>economizing heat</i> ]	10,503	30th Jan. 1845	Matthew Allen.
Consuming fuel - - - - -	10,531	20th Feb. 1845	Samuel Hall.
Improvements applicable to economizing fuel in } furnaces generally - - - - - }	10,573	20th March 1845	{ Louis Theodore Maillard Rochet.
Steam-boilers [ <i>consuming smoke</i> ] - - - - -	10,594	7th April 1845	John Dewrance.
Apparatus suitable for the consumption of certain fuel.	10,666	10th May 1845	John Parsons.
Application of heat to boilers for generating steam; which improvements may be also applied to other purposes where heat is required [ <i>combustion of fuel</i> ].	10,672	17th May 1845	Louis Antoine Ritterbrandt.
Steam-engines and boilers [ <i>economizing fuel</i> ] -	10,765	12th July 1845	Joseph Fulton Meade.
Stoves [ <i>economizing heat, producing more perfect combustion</i> ].	10,813	9th Aug. 1845	Charles Searle.
Economizing fuel - - - - -	10,986	10th Dec. 1845	Edward Green.
Consuming smoke and economizing fuel - -	11,074	3rd Feb. 1846	{ William Garnett Taylor. William Taylor.
Improvements in stoves [ <i>economizing fuel</i> ] - -	11,096	17th Feb. 1846	Stephani Etievant.
Preparing and burning fuel - - - - -	11,097	17th Feb. 1846	{ Nicolas François Corbin Desboissierres.
Cooking and culinary utensils and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>coal scuttles</i> ].	11,149	25th March 1849	Charles Smith.
Steam-engines, marine, stationary, and locomotive; machinery and apparatus connected therewith [ <i>economizing the steam power</i> ].	11,199	7th May 1846	Thomas Melling.
Steam-engine boilers, and furnaces [ <i>consumption of smoke</i> ].	11,207	13th May 1846	Julius Jeffreys.
Construction of steam-boilers and steam-engines [ <i>consuming smoke</i> ].	11,221	26th May 1846	James Montgomery.
Furnaces and flues of steam-boilers for the purposes of consuming the smoke and economizing fuel.	11,260	24th June 1846	Ambrose Lord.
Setting and fixing stills and boilers; construction of furnaces [ <i>consuming smoke</i> ].	11,268	29th June 1846	Joseph Moreland.
Saving fuel - - - - -	11,324	10th Aug. 1846	George Lodge.
Steam-engine chimneys, furnaces and flues, vent and exhaust pipes, and other like smoke and air conductors; machinery and apparatus connected therewith [ <i>producing draft</i> ].	11,415	15th Oct. 1846	James Kite.
Steam-engines and boilers [ <i>saving steam power</i> ] -	11,473	3rd Dec. 1846	Thomas Craddock.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Obtaining heat during the manufacture of coke; applying such heat for various purposes [ <i>consuming smoke</i> ].	11,477	7th Dec. 1846	Eugene Bazile.
Consuming smoke and economizing fuel - - -	11,525	11th Jan. 1847	John Platt.
Furnaces and flues [ <i>economizing heat</i> ] - - -	11,562	8th Feb. 1847	George Grundy.
Locomotive and other boilers [ <i>economizing heat</i> ] -	11,605	3rd March 1847	{ George Fossick. Thomas Hackworth. Thomas Elliott.
Self-feeding furnaces, adapted both for land and marine purposes, for the better prevention of smoke arising from fires in such furnaces.	11,628	18th March 1857	James Wills Wayte.
Construction of furnaces [ <i>supplying fuel to furnaces</i> ].	11,704	18th May 1847	Thomas Hazeldine.
Consuming smoke and economizing the fuel of steam-engines, breweries, and manufactories generally.	11,817	28th July 1847	William Edward Kyan.
Heating rooms or apartments [ <i>with open gas stoves and economy of fuel</i> ].	11,865	9th Sept. 1847	William Brockedon.
Application of heat to the preparation, desiccation, and preservation of breadstuffs, confectionary, pulse, meats, vegetables, and other edible substances [ <i>economizing heat</i> ] - - - - -	11,947	6th Nov. 1847	{ Robert Davison. William Symington.
Combustion of fuel and applying the heat so obtained.	11,976	25th Nov. 1847	Richard Coad.
Furnaces, stoves, grates, and fireplaces, kilns and other apparatus for preparing vegetable and other substances, and the generation and application of heat [ <i>economizing heat</i> ].	12,043	27th Jan. 1848	John Collins.
Processes and apparatus for preventing in many cases the escape of heat through boilers and apparatuses, and for saving and applying the lost heat in general, and sometimes directing heat to many useful purposes.	12,062	10th Feb. 1848	Felix Douche.
Marine steam-boilers and apparatus connected therewith [ <i>consuming smoke</i> ].	12,064	11th Feb. 1848	Thomas, Earl of Dundonald.
Furnaces [ <i>economizing fuel in reverberatory furnaces</i> ] -	12,007	14th Feb. 1848	{ James Timmins Chance. Edward Chance.
Thrashing-machines, steam-boilers and engines; other apparatus for driving the same [ <i>consumption of fuel</i> ].	12,080	8th March 1848	William Exall.
Obtaining combustion - - - - -	12,085	8th March 1848	John Houston.
Furnaces [ <i>blowing machine for economizing heat</i> ] -	12,087	8th March 1848	George Lloyd.
Generating, indicating, and applying heat [ <i>economizing heat</i> ] - - - - -	12,110	5th April 1848	{ Thomas John Knowlys. William Fillis.
Furnaces and fireplaces [ <i>economizing fuel</i> ] - - -	12,174	3rd June 1848	Henry Adcock.
Construction and arrangement of furnaces, flues, boilers, ovens, and retorts, having for their object the economical application of caloric, the manufacture of gas for illumination, and the consumption of smoke and other gaseous products.	12,190	16th June 1848	George Emmott.
Construction of stoves, grates, furnaces, or fireplaces for various useful purposes [ <i>combustion of fuel</i> ].	12,204	6th July 1848	William Edward Newton.
Furnaces and fireplaces [ <i>economizing heat and consuming smoke</i> ].	12,224	29th July 1848	John Grist.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Means and apparatus for effecting the transit or conveyance of goods, passengers, and correspondence by land or water, and for other such purposes; part or parts of which constitute a new and improved mode of generating steam, and applicable to other purposes to which steam is generally applied as a motive-power [economizing heat].	12,269	15th Sept. 1848	William Sager.
Generating steam and evaporating fluids [economizing heat].	12,285	12th Oct. 1848	John Wright.
Construction and arrangement of boilers for the generation of steam; furnaces and flues used in connection therewith;—partly applicable to other purposes [supplying fuel] - - - - -	12,300	26th Oct. 1848	{ James Burrows. George Holcroft.
Consuming smoke and other gaseous products arising from fuel and other substances.	12,308	2nd Nov. 1848	James Robertson.
Feeding furnaces with fuel - - - - -	12,341	23rd Nov. 1848	{ Frederick Bramwell. Samuel Collet Homersham.
Construction and arrangement of stoves for cooking and for other purposes [economizing heat].	12,357	2nd Dec. 1848	John Duley.
Ovens and furnaces [supplying fuel] - - - - -	12,374	16th Dec. 1848	Joseph Deeley.
Furnaces [economizing heat] - - - - -	12,428	18th Jan. 1849	Thomas Newcomb.
Improvements applicable to heating and boiling liquids of any kind or description [economizing fuel] - - - - -	12,447	30th Jan. 1849	{ Alexander Wilkins. William Stacey.
Coke ovens; machinery and apparatus for working the same or connected therewith; modes of applying certain portions of coke, or the residual products of coke to heating and lighting [economizing heat].	12,458	8th Feb. 1849	Henry Fisher.
Methods and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [saving fuel].	12,491	28th Feb. 1849	Henry Croasley.
Heating apparatus; applying hot and warm air to manufacturing and other purposes where the same are required [economizing heat].	12,517	14th March 1849	Alexander Swan.
Apparatus for effecting the combustion of fuel and consuming smoke.	12,527	19th March 1849	Samuel Hall.
Furnaces and machinery for obtaining power [facilitating the combustion of fuel].	12,533	24th March 1849	John Macintosh.
Application of gases for consuming smoke - - -	12,538	26th March 1849	Stephen White.
Construction of baking ovens; also certain machinery for working or using the same [economizing heat].	12,558	28th March 1849	Thomas Harrison.
Obtaining perfect combustion; apparatus relating thereto, applicable to furnaces and fireplaces of every description - - - - -	12,562	3rd April 1849	{ James Godfrey Wilson. William Pidding.
Generating steam [heating boilers] - - - - -	12,633	5th June 1849	Thomas Lawes.
Stoves, grates, or fireplaces; warming or heating buildings [consuming smoke].	12,634	5th June 1849	William Edward Newton.
Steam-engines and boilers; methods of preventing accidents in working the same [saving fuel].	12,644	7th June 1849	Robert Wilson.
Wheels, ploughs and harrows, steam-boilers and machinery for propelling vessels [economizing heat].	12,663	20th June 1849	Alexander Francis Campbell.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Apparatus to assist combustion in stoves and grates	12,658	4th July 1849	John Browne.
Steam-boilers [ <i>consuming smoke</i> ] - - - -	12,748	23rd Aug. 1849	William Edward Newton
Puddling and other furnaces; steam-boilers [ <i>applying air to support combustion</i> ].	12,750	30th Aug. 1849	Thomas Symes Prideaux.
Apparatus for supplying furnaces with fuel - -	12,780	20th Sept. 1849	Henry Bessemer.
Furnaces [ <i>economizing fuel</i> ] - - - -	12,782	20th Sept. 1849	Elijah Galloway.
Improvements in furnaces, or in the means of consuming smoke- - - -	12,797	12th Oct. 1849	{ Joseph Johnson. Joe Cliffe.
Engines worked by steam, air, water and other fluids, and whether locomotive, marine, or stationary; also boilers; the principle of which improvements is likewise applicable to blowing air and pumping water [ <i>economizing heat</i> ] - - - -	12,880	10th Dec. 1849	{ Jonah Davies. George Davies.
Heating and lighting; lamps and candlesticks; apparatus to be used for such purposes [ <i>combustion of fuel</i> ].	13,003	11th March 1850	William Crane Williams.
Obtaining and applying heat [ <i>economizing heat</i> ] -	13,004	12th March 1850	James Nasmyth.
Consuming smoke - - - -	13,049	18th April 1850	William Hargreaves, jun.
Conducting and consuming smoke; also disengaging smoke from its deleterious compounds.	13,060	23rd April 1850	Peter Armand le Comte de Fontainemoreau.
Certain descriptions of steam engines [ <i>locomotive and other portable boilers, for economizing heat</i> ].	13,159	3rd July 1850	Paul Rapsey Hodge.
Construction of the boilers and funnels of steam-engines [ <i>for the better consumption of fuel</i> ].	13,160	3rd July 1850	Wakefield Pim.
Heating and regulating temperature [ <i>economizing fuel</i> ].	13,298	24th Oct. 1850	John Grant.
Stoves [ <i>supplying air</i> ] - - - -	13,373	30th Nov. 1850	William Henry Ritchie.
Applying heat for generating steam for motive-power, and for other purposes; generating heat; heating and evaporating fluids [ <i>economizing heat</i> ].	13,398	7th Dec. 1850	Archibald Turner.
Furnaces [ <i>economizing heat, saving fuel</i> ] - -	13,398	7th Dec. 1850	David Lloyd Williams.
Steam-engines; working of steam-boilers [ <i>consuming smoke</i> ] - -	13,419	19th Dec. 1850	David Auld.
Generating and condensing steam; fireplaces and furnaces [ <i>supplying fuel</i> ].	13,432	28th Dec. 1850	Thomas Symes Prideaux.
Steam-engines; apparatus for generating and indicating the pressure of steam, and for filtering water to be supplied to boilers—applicable to steam-vessels or ships [ <i>economizing heat</i> ] - -	13,435	2nd Jan. 1851	{ John Tatham. David Cheetham.
Generating and applying steam for certain purposes [ <i>economizing fuel</i> ].	13,440	4th Jan. 1851	Thomas Lawes.
Consuming smoke - - - -	13,447	11th Jan. 1851	George Anstey.
Constructing and heating ovens - - - -	13,509	11th Feb. 1851	Angier March Perkins.
Generating and applying heat [ <i>consuming smoke</i> ] -	13,547	10th March 1851	George Robins Booth.
Steam-engines and boilers [ <i>supplying fuel</i> ] - -	13,552	11th March 1851	{ William Galloway. John Galloway.
Heating [ <i>economizing heat</i> ] - - - -	12,568	24th March 1851	Hector Ledru.
Boilers for generating steam [ <i>consuming smoke, saving fuel</i> ].	13,615	3rd May 1851	Edwin Rose.
Steam-engines and steam-boilers, and passages and valves for the induction, eduction, and working of fluids.	13,641	27th May 1851	Archibald Slate.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Steam-boilers or generators [ <i>saving fuel</i> ] - - -	13,691	17th July 1851	John Hick.
Apparatus for facilitating the combustion of fuel, thereby dispensing with funnels, chimneys, or shafts.	13,725	21st Aug. 1851	John Treasahar Jeffree.
Construction of apparatus and machinery for economizing fuel in the generation of steam.	13,805	6th Nov. 1851	William Thomas.
Steam-engines and boilers [ <i>economizing heat</i> ] - -	13,843	8th Dec. 1851	Joseph Harrison.
Construction of boilers for generating steam [ <i>economizing steam</i> ].	13,874	19th Dec. 1851	William Emery Milligan.
Apparatus for generating steam [ <i>economizing heat</i> ] -	13,959	9th Feb. 1852	William Beckett Johnson.
Stoves, grates, or fireplaces [ <i>economizing heat</i> ] -	14,004	8th March 1852	George Wright.
Boilers for generating steam [ <i>economizing heat</i> ] -	14,023	11th March 1852	Benjamin Goodfellow.
Stoves and other apparatus for heating [ <i>economizing heat</i> ] - - - - -	14,032	24th March 1852	{ Isaac Brookes. William Lutwyche Jones.
Method of generating or producing steam; machinery or apparatus connected therewith - - -	14,061	22nd April 1852	{ William Hindman. John Warhurst.
Treating and utilizing certain products of combustion.	14,139	22nd May 1852	Johann Stierba.
Steam-boilers [ <i>consuming smoke</i> ] - - - - -	14,153	3rd June 1852	Samuel Morris.
Coke ovens and apparatus connected therewith [ <i>arranging the flues for the more perfect combustion of fuel</i> ].	14,210	6th July 1852	John Andrews.
 <b>II.—Curing Smoky Chimneys; regulating Draft, Wind-guards.</b>			
Preventing smoke in brewhouses, dyehouses, and similar places, preserving cauldrons, coppers, boilers, furnaces, and other like articles at half the usual charge either of fire or vessels - - -	93	13th May 1636	{ Robert Lindsey. John Hobart.
Curing smoky chimneys by altering the course of the smoke towards the top, or by inserting tunnels with checks within the chimneys - - -	138	2nd May 1662	{ John Colladon. Alexander Merchant.
Machine to cure smoky chimneys - - - - -	434	12th Aug. 1721	Isaac de la Chaumette.
Preventing the smoking of chimneys and all inconveniences that happen thereto, either from wind, sun, or rain, by causing an attraction of smoke by a method not hitherto practised.	440	31st May 1722	James le Grand.
Remedy for smoky chimneys, by fixing on the top a "mantle chimney" without doors, made of brick, lime, or other building material - - -	509	8th May 1729	{ William Fabene. Edward Campbell.
Curing smoky chimneys - - - - -	512	11th July 1729	Robert Phillips.
Machine which being placed upon a stove or in a chimney will prevent such chimney smoking.	800	10th Nov. 1763	George Yates.
Preventing and curing smoky chimneys - - -	1227	7th June 1779	Francis Pinto.
Curing smoky chimneys - - - - -	1464	28th Jan. 1785	John Davis.
Machinery or apparatus to be applied to a range, grate, or stove, to prevent chimneys smoking - -	1985	7th May 1794	{ George Stratton. Samuel Griawould Dorr.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Machine for the prevention and cure of smoky chimneys - - - - -	2032	12th Jan. 1795	{ Thomas Crook. Thomas German.
Preventing and curing smoky chimneys - - -	2107	3rd May 1796	John Johnson.
Construction of machines for taking off the pressure of the atmosphere from the tops of chimneys, to prevent what are commonly called smoky chimneys.	2217	28th Feb. 1798	Walter Taylor.
Preventing and curing smoky chimneys - - -	2778	4th Aug. 1804	William Pether.
Stove or grate and range, by which chimneys will be prevented smoking.	2882	27th Sept. 1805	James Macnaughtan.
Machine for discharging smoke from smoky chimneys.	2980	30th Oct. 1806	James Caparn.
Apparatus to prevent chimneys smoking - - -	3167	15th Sept. 1808	John Warren.
Construction of stove grates calculated to prevent or cure smoky chimneys.	3213	6th March 1810	John Justice.
Prevention or cure of smoky chimneys - - -	3345	8th June 1810	Mary Townley.
Cap or cowl to be placed on the tops of chimneys to prevent the smoke being driven down by the wind.	3535	6th Feb. 1812	Robert Goswell Giles.
Article for preventing chimneys smoking, "smoke conductor," and which may be manufactured either in cast iron, wrought iron, copper, brass, and tin, or any metallic substance.	3626	19th Dec. 1812	John Fisher.
Machine for the prevention and cure of smoky chimneys, which consists of a hollow cap of copper or other metallic substance, or of clay, with a funnel to carry off the smoke; this machine when fixed on the top of a chimney, with two or more courses of brickwork, will prevent smoke being driven back into the room, by excluding wind from the orifice of the chimney, and promoting draft by means of a continual accumulation of rarified air in the cavity of the cap.	3697	22nd May 1813	Thomas Willcox.
Construction of fireplaces [to prevent smoky chimneys].	3752	16th Nov. 1813	William Burge.
Improvements upon stove-grates, to prevent smoky rooms and for obtaining an increased heat from the same quantity of fuel.	3763	29th Nov. 1813	Isaac Willson.
Abating smoke and obtaining a valuable product therefrom.	3939	2nd March 1816	George Frederick Muntz.
Prevention or cure of smoky chimneys - - -	4009	23rd March 1816	James Younie.
Apparatus to prevent obstruction to the passage of smoke in and through chimneys.	4023	4th May 1816	William Threadgold.
Improvements applicable to the purposes of warming, cooling, or conducting air in houses or other buildings, and also of warming, cooling, evaporating, condensing, and taking the residuum from liquids, and to other useful purposes [increasing draft in chimneys].	4192	19th Dec. 1817	Jean Frederic Marquis de Chabannes.
Machine for curing and ventilating smoky chimneys	4225	10th Feb. 1818	Zachariah Barratt.
Machine for removing the smoke or gases generated in stoves, furnaces, or fireplaces, also in certain cases for directing the heat, and applying such smoke or gases to useful purposes [air-tight stoves for heating boilers, with a force-pump for supplying air to support combustion] - - -	4253	4th May 1818	{ Sir Thomas Cochrane, Knight. Alexander Galloway.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Regulating and improving the draft of chimneys -	4296	5th Oct. 1818	Thomas Parker.
Machine or top for the cure of smoky chimneys -	4337	23rd Jan. 1819	Joseph Hill.
Chimney caps for facilitating the discharge of smoke from chimneys.	4511	7th Nov. 1820	John Winter.
Preventing the ill effects to vegetation and animal life that has hitherto been occasioned by noxious fumes and particles that arise from smelting and calcining lead ore, and other pernicious minerals [ <i>ventilating flues and chimneys of calcining furnaces.</i> ]	4682	15th June 1822	Joseph Wass.
Grate-stoves, furnaces, and other inventions for the consumption of fuel, and flues connected with them, whereby they are rendered more safe, and the smoke prevented from returning into the rooms in which they are placed.	4744	26th Dec. 1822	George Richards.
Securing the egress of smoke and rarefied air in certain situations [ <i>increasing drafts in chimneys and flues.</i> ]	5027	4th Nov. 1824	John Crosley.
Wind guard or apparatus for preventing the inconvenience from smoke in chimneys.	5351	25th April 1826	Francis Halliday.
Machinery for curing smoky chimneys by means of a serpentine tube or funnel.	5358	6th May 1826	William Fenner.
Apparatus for raising or generating steam and currents of air, and for the application thereof to locomotive engines, and other purposes [ <i>increasing draft in flues.</i> ]	5815	8th July 1829	Moses Poole.
Steam carriages and boilers; method of producing increased draft	5956	19th July 1830	{ John Rawe, junior. John Boase.
Chimneys for dwelling houses, and other houses and buildings, applying a damper to regulate draft.	5999	14th Sept. 1830	Seth Smith.
An improved fire-grate [ <i>regulating draft, and curing smoky chimneys.</i> ]	6108	14th April 1831	{ Thomas Gaunt. George Frederick Eckstein.
Application of a mechanical apparatus as a smoke conductor in chimneys.	6184	19th Oct. 1831	Thomas Henry Pollard.
Improvements on or additions to boilers, applicable to various purposes [ <i>regulating draft.</i> ]	6545	18th Jan. 1834	Jean Jacques Leopold Oberlin.
Steam-engines and boilers, applicable both to fixed and locomotive engines [ <i>apparatus for regulating draft.</i> ]	6616	24th May 1834	John George Bodmer.
Preventing or curing smoky chimneys - - -	6654	5th Aug. 1834	Edmund Youldon.
Chimney caps to facilitate the discharge of smoke and to prevent its return.	7340	15th April 1837	Reuben Bull.
Steam-engines, boilers, and furnaces for the generation of steam, and for other purposes [ <i>increasing draft.</i> ]	7467	11th Nov. 1837	James Slater.
Curing or preventing smoky chimneys - - -	7514	19th Dec. 1837	{ James Berington. Nicholas Richards.
Stoves, grates, and furnaces [ <i>prevention of smoky chimneys.</i> ]	7603	26th March 1838	Julius Jeffreys.
Stoves [ <i>regulating draft.</i> ]	7917	20th Dec. 1838	Samuel Parker.
Apparatus for supplying atmospheric air in the production of light and heat [ <i>regulating draft.</i> ]	8003	15th March 1839	Richard Lamb.
Preventing and curing smoky chimneys - - -	8276	21st Nov. 1839	John Parsons.
Apparatus for creating draft; applicable to chimneys, and to other purposes.	9002	23rd June 1841	George Thomas Day.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Apparatus to prevent chimneys taking fire and to render sweeping unnecessary.	9426	23rd July 1842	Eugene de Varroc.
Apparatus applicable to flues or chimneys for increasing the draft.	9750	30th May 1843	John Tappan.
Fireplaces, flues, and chimneys [ <i>increasing draft and preventing chimneys smoking</i> ].	9882	21st Sept. 1843	William Denley.
Heating liquids and aeriform bodies [ <i>increasing draft</i> ].	9913	18th Oct. 1843	Thomas Morton Jones.
Preventing chimneys and flues from smoking - -	9921	2nd Nov. 1843	David Evans.
Apparatus to prevent chimneys from smoking -	10,164	30th April 1844	William Jeffries.
Construction and arrangement of stoves and fireplaces [ <i>increasing draft</i> ].	10,248	3rd July 1844	Thomas Syson Candy.
Apparatus for preventing smoky chimneys or flues -	10,250	3rd July 1844	Daniel Stafford.
Preventing smoke - - - - -	10,531	20th Feb. 1845	Samuel Hall.
Steam-engines [ <i>regulating the draft of the flues</i> ] -	11,294	14th July 1846	Gustaf Victor Gustafsson.
Sewerage and drainage; apparatus connected therewith [ <i>preventing smoky chimneys</i> ].	11,426	22nd Oct. 1846	James Lysander Hale.
Apparatus for ventilating chimneys and other places where a change of air is required.	11,626	16th March 1847	Joseph Henry Tuck.
Apparatus for regulating the pressure of steam in boilers and regulating the damper of a furnace.	11,711	22nd May 1847	Sydney Smith.
Heating, lighting, ventilating and closing and securing the doors of apartments [ <i>regulating draft in furnaces and fireplaces</i> ].	12,129	20th April 1848	John Britton.
Apparatus for preventing smoky chimneys [ <i>a wheel moved by the wind, and which will tend to ventilate the apartment</i> ].	12,187	13th June 1848	Sir Henry Hart.
Fireplaces and flues, and apparatus connected therewith [ <i>metallic globe placed in the cap of a chimney</i> ].	13,022	23rd March 1850	Edward Welch.
Apparatus for the cure or prevention of smoky chimneys.	13,293	24th Oct. 1850	Jean Louis Pascal.
Regulating the draft in chimneys - - -	13,447	11th Jan. 1851	George Anstey.
Machinery or apparatus for evaporating fluids [ <i>increasing draft in chimneys or flues</i> ].	13,779	17th Oct. 1851	Richard Roberts.
Apparatus for preventing smoky chimneys [ <i>constructing wind-guards</i> ] - - - - -	14,071	17th April 1852	{ William Henry Dupré. Clement Le Sueur.
Regulating the draft in chimneys or flues - -	14,142	25th May 1852	Henry Webster.
<b>III.—Sweeping and cleansing Chimneys and Flues.</b>			
Machine for cleaning chimneys - - - -	1682	28th May 1789	John Elin.
Apparatus for sweeping chimneys - - - -	2124	4th July 1796	Daniel Davis.
Cleansing and sweeping chimneys - - - -	2697	11th April 1803	Daniel Paulin Davis.
Sweeping chimneys - - - - -	2702	10th May 1803	Elizabeth Bell.
Sweeping chimneys - - - - -	3019	7th March 1807	Elizabeth Bell.
Machine for cleansing and sweeping chimneys -	4225	10th Feb. 1818	Zachariah Barratt.
Apparatus for cleaning flues - - - - -	4744	26th Dec. 1822	George Richards.
Machinery for cleaning foul chimneys - - -	5358	6th May 1826	William Fenner.
Apparatus for scraping, sweeping, or cleaning chimneys; manufacture of such apparatus.	7777	21st Aug. 1838	Samuel Stocker.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Apparatus for sweeping or cleansing chimneys or flues, and extinguishing fires therein [ <i>Ramoneur</i> ]	9284	7th March 1842	{ Sir Francis Desanges. Anguish Honour Augustus Durant.
Machinery for sweeping and cleansing chimneys and flues.	9343	9th May 1842	George Hawe.
Sweeping and cleaning chimneys and flues; increasing the draft therein.	9921	2nd Nov. 1843	David Evans.
Machinery for sweeping and cleansing chimneys and flues.	10,136	2nd April 1844	John Parsons.
Sweeping chimneys - - - - -	10,164	30th April 1844	William Jeffries.
Sweeping chimneys;—applicable to other purposes -	10,273	27th July 1844	James Kite.
Apparatus for cleansing chimneys - - - - -	11,440	5th Nov. 1846	Robert Teagle.
Apparatus for sweeping chimneys and flues - - -	11,667	20th April 1847	Osman Giddy.
Machinery for sweeping chimneys and flues, and for other similar purposes.	11,686	4th May 1847	Lemuel Wellman Wright.
Apparatus for sweeping and cleansing chimneys, funnels, flues, and other places.	11,961	13th Nov. 1847	George Taylor.
Apparatus used in cleaning flues - - - - -	12,090	8th March 1848	Alexander Alliott.
<b>IV.—Purifying Smoke and Vapours.</b>			
Method of changing the smoke arising from combustion into various useful materials.	1861	15th March 1792	Charles William Ward.
Destroying effluvia from spent soap-lees and other liquid, fluid, or solid substances.	3495	30th Oct. 1811	John Miers.
Rendering less noxious the vapour arising in the evaporation of certain fluids.	3924	10th Jan. 1815	John Richter.
Destroying or decomposing offensive vapour arising from vegetable or animal matter when heated [ <i>vapours from soap boiling, &amp;c.</i> ]	4432	25th Jan. 1820	Philips London, junior.
Preventing the effects on vegetation and animal life caused by fumes arising from smelted lead ore, and other minerals.	4692	15th June 1822	Joseph Wass.
Washing or purifying smoke and vapours evolved from furnaces.	7463	7th Nov. 1837	Tobias Michell.
Apparatus for purifying the smoke, gases, and other vapours arising from fires, stoves, and furnaces - - - - -	9259	8th March 1842	{ Thomas Hedley. Cuthbert Rodham.
Apparatus for collecting the smoke or soot arising from combustion of fuel.	9489	13th Oct. 1842	Charles Thomas Holcombe.
Collecting, condensing, and purifying the fumes of lead, copper, and other ores and metals; also the particles of such ores and metals arising from the roasting, smelting, or manufacturing thereof; likewise the noxious smoke, gases, salts, and acids soluble and absorbable in water, and generated in treating and working such ores and metals.	9920	2nd Nov. 1843	Joseph Dickinson Stagg.
Washing the products evolved from furnaces - - -	10,218	4th June 1844	Paul Griffiths.
Directing the passage of, and otherwise dealing with the noxious vapours and other matters arising from chemical works [ <i>in the manufacture of sulphate of soda</i> ].	10,293	22nd Aug. 1845	George Turner.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SMOKE, &amp;c.—continued.</b>			
Treating noxious vapours arising from chimneys and from chemical and other works [ <i>treating the ammoniacal liquor of gasworks to prevent the escape of noxious vapours therefrom</i> ].	10,519	10th Feb. 1845	Oglethorpe Wakelin Barratt.
Purifying vapours arising from smelting and other furnaces; recovering useful matters therefrom.	10,785	25th July 1845	James Stokoe.
Machinery for purifying gases - - - -	12,270	21st Sept. 1848	Joseph Lillie.
Certain compounds to be used for the prevention of injury to health under certain circumstances [ <i>rendering noxious gases innoxious by use of lime and sulphate of alumina</i> ].	12,354	2nd Dec. 1848	Robert Nelson Collins.
Conveying away or decomposing smoke and products of combustion from stoves and grates.	12,935	19th Jan. 1850	William Beaden.
Disengaging smoke from its deleterious compounds	13,060	23rd April 1850	{ Pierre Armand le Comte de Fontainemoreau.
Manufacture of charcoal [ <i>and collecting the gaseous and volatile products that are formed during the dry distillation or decomposition of the raw material</i> ].	13,331	9th Oct. 1850	Sir Francis Charles Knowles.
Machinery and apparatus for purifying smoke, gases, and other noxious vapours arising from fireplaces, furnaces, or chemical works; rendering the products resulting therefrom available for the manufacture of colours - - - -	13,412	16th Dec. 1850	{ Richard Rodham. Edward Robert Hoblyn.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SOAP MANUFACTURE.</b>			
<b>Making, cutting, and marking.</b>			
Making soap, soap-ashes, and salts for soap - -	20	10th May 1622	{ Sir Edmond Harewell, Knt. Sir Carey Raleigh, Knt. John Williams. Robert Clerke.
Making hard and soft soap - - - - -	23	23rd Feb. 1623	{ Roger Johnes. Andrew Palmer.
Making Castile or Venice soap - - - - -	107	21st July 1637	Sir Richard Weston, Knt.
Making hard soap, as Venetian, Marseilles, Castile, and other hard soaps.	199	7th Dec. 1677	Patrick Grant.
Making Castile soap - - - - -	682	4th April 1751	Willoughby Marchant.
Using refuse of alum or alum-slam in place of kelp, for making soap.	815	22nd Sept. 1764	Evan Deer.
Making soap without boiling - - - - -	912	2nd Dec. 1769	James Auriol.
Lixivium or soap which will wash linen, cotton, woollen, or silk, as effectually as common soap with soft water.	957	28th April 1770	David Riz.
Machine or stove-engine for boiling soap or other articles which require to be boiled in large vessels.	1051	5th Aug. 1773	John Melvill.
Constructing and setting boilers for soap-houses -	1056	17th Nov. 1773	Christopher Chrisel.
Making soap from British barilla - - - - -	1246	4th March 1780	James King.
Rectifying spent lees from which soap has been made, and rendering it again fit for making soap.	1250	30th March 1780	John Mitchell.
Making soap from soap-suds - - - - -	1257	14th June 1780	Samuel Unwin.
Purified soap - - - - -	1520	23rd Jan. 1786	Walter Gordon.
Preparing oils for manufacturing hard soap, with or without tallow or other grease or resin; which preparation may be adapted to several other purposes.	1781	6th Nov. 1790	Samuel Pugh.
Making "Jessamine soap" - - - - -	1974	8th Jan. 1794	Andrew Johnstone.
Making soap by means and use of mineral and vegetable alkalies.	2204	12th Dec. 1797	John Crooks.
Manufacture of soap by means and use of volatile, mineral, and vegetable alkalies, either by joining them with each other or using the volatile alkalies by themselves.	2342	23rd Sept. 1799	John Crooks.
Making soap of a peculiar quality - - - - -	2492	28th April 1801	George Waring.
Materials capable of being rendered useful as a substitute for soap.	2636	23rd July 1802	John Vancouver.
Compositions formed by uniting an absorbent or detergent earth with other ingredients, for washing or scouring, and for various purposes for which soaps or detergent earths are now applied.	2798	19th Dec. 1804	William Everhard Baron Von Doornik.
Soap - - - - -	2928	5th April 1806	William Henry Lassalle.
Manufacturing soap - - - - -	3100	23rd Jan. 1808	Samuel Phelps.
Soap-making - - - - -	3132	10th May 1808	John Watson.
Manufacture of soap, to wash with sea water, hard water, and soft water.	3203	7th Feb. 1809	William Everhard Baron Von Doornik.
Manufacture of soap, for washing with sea water, hard water, and soft water.	3393	8th Oct. 1810	Edmund Griffiths.
Manufacture of soap, to wash with sea water, hard water, and soft water.	3438	27th April 1811	William Everhard Baron Von Doornik.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SOAP—continued.</b>			
Producing soap - - - - -	3507	21st Nov. 1811	Charles Random De Berenger.
Manufacture of soap - - - - -	3660	3rd March 1813	William Mitchell.
Saponaceous compounds for deterging in sea water, } hard water, and soft water - - - - - }	3756	23rd Nov. 1813	{ Jeremiah Donovan. John Church.
Manufacture of soap - - - - -	3864	20th Dec. 1814	William Everhard Baron Von Doornik.
Making marine soap, and domestic hard and soft soap.	3921	3rd June 1815	Benjamin Stevens.
Making, mixing, compounding, improving, or altering the article of soap.	5302	3rd Dec. 1825	William Pope.
Compositions to be used for washing in sea or other water.	5361	8th May 1826	Edward Heard.
Manufacturing soap - - - - -	5794	26th May 1829	Charles Turner Sturtevant.
Manufacture of a material produced from a vegetable substance; application thereof for affording light and for other uses [ <i>cocoa-nut oil for making soap</i> ].	5863	2nd Nov. 1829	James Soames, junior.
Extraction of oleaginous matter from a certain foreign vegetable kernel, and application of the same to the making soap and other articles [ <i>the kernel of the palm nut</i> ].	6256	13th April 1832	John Demeur.
Combination of materials forming a substance or compound to be used with or as a substitute for soap.	6595	19th April 1834	John Hewitt.
Composition or material to be used as a substitute for soap.	6803	3rd April 1835	John Fenton.
Making, mixing, compounding, improving, or altering soap.	6847	4th June 1835	James Leman.
Manufacture of soap - - - - -	6894	17th Sept. 1835	John Joseph Charles Sheridan.
Manufacture of soap - - - - -	7042	22nd March 1836	John Cox.
Making soap - - - - -	7060	12th April 1836	James Leman.
Method of dissolving silicious matter and compounds of silica, and manufacturing soap.	7283	17th Jan. 1837	Arthur Dunn.
Improvements applicable to the making of soap, } and to other useful purposes - - - - - }	7538	11th Jan. 1838	{ Charles Watt. Thomas Rainforth Tebbutt.
Manufacturing soap - - - - -	7617	21st April 1838	Edward Cooper.
Apparatus used in the manufacture of soap - -	7667	14th June 1838	John Bolton Doe.
Manufacture of soap - - - - -	7720	4th July 1838	{ Frederick Joseph Burnett. Hippolyte François, Marquis de Bouffet Montauban.
Manufacture of soap - - - - -	7783	24th Aug. 1838	Arthur Dunn.
Manufacture of soap - - - - -	7822	27th Sept. 1838	John Joseph Charles Sheridan.
Manufacturing soap or composition for the felting and other processes employed in the manufacture of woollen-cloth, and for other purposes.	7827	8th Oct. 1838	George Haden.
Manufacture of soap - - - - -	8040	23rd April 1839	James Davis.
Manufacture of soap, by the application of materials not hitherto used for that purpose [ <i>a product derived from digesting fish without alkali in a Papia's or other digester</i> ].	8088	4th July 1839	Moses Poole.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SOAP—continued.</b>			
Manufacture of soap - - - - -	8101	12th June 1839	William Hawes.
Soap-frame - - - - -	8170	29th July 1839	William Colchester.
Process and apparatus used in the manufacture of soap.	8180	1st Aug. 1839	Samuel Guppy.
Manufacture of soap - - - - -	8435	17th March 1840	Moses Poole.
Preparation of wool for the manufacture of woollen and other stuffs; process of obtaining materials employed for that purpose [ <i>obtaining a saponaceous compound by adding alkali to remove oleic acid used in the preparation of wools</i> ].	8496	7th May 1840	Bernard Aubé.
Manufacture of soap - - - - -	8571	15th July 1840	John Lambert.
Purifying vegetable and animal oils for soap-making	8752	23rd Dec. 1840	David Walther.
Manufacture of soap - - - - -	8870	8th March 1841	Richard Lawrence Sturtevant.
Manufacture of soap - - - - -	9081	8th Sept. 1841	Alphonse Rene le Mire de Normandy.
Manufacture of soap - - - - -	9095	21st Sept. 1841	Edward Emanuel Perkins.
Manufacture of soap - - - - -	9224	15th April 1842	Charles Farina.
Manufacture of soap - - - - -	9931	9th Nov. 1843	Arthur Dunn.
Apparatus for and process of treating fatty and other substances, for making candles, and for other uses [ <i>making soap</i> ] - - - - -	9944	16th Nov. 1843	{ George Gwynne. George Fergusson Wilson.
Manufacture of soap - - - - -	9951	21st Nov. 1843	Edmund Snell.
Manufacture of soap - - - - -	10,178	8th May 1844	Charles Watterson.
Manufacture of soap - - - - -	10,181	20th May 1844	{ George Gwynne. George Fergusson Wilson.
Manufacture of soap - - - - -	10,311	12th Sept. 1844	{ Charles Wearg Clark. James Reed.
Manufacture of soap; heating a certain vegetable matter for such manufactures and for other uses [ <i>olive oil</i> ].	10,312	12th Sept. 1844	James Power.
Manufacture of soap - - - - -	10,400	25th Nov. 1844	John Barker Anderson.
Manufacture of soap - - - - -	10,566	17th March 1845	William Lloyd Caldecott.
Manufacture of soap - - - - -	10,622	17th April 1845	Hypolite Chauvier.
Manufacture of soap - - - - -	10,664	10th May 1845	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson.
Application of materials to the manufacture of soap	10,741	28th June 1845	Dominic Frick Albert.
Manufacture of soap - - - - -	10,748	3rd July 1845	François Marie Agathe Dez Maurel.
Manufacture of soap - - - - -	10,870	10th Oct. 1845	{ George Fergusson Wilson. George Gwynne. James Pillans Wilson.
Manufacture of soap - - - - -	10,927	6th Nov. 1845	Laura Laughton.
Manufacture of soap - - - - -	11,529	14th Jan. 1847	Joseph Seraphin Fancon.
Manufacture of soap - - - - -	11,677	27th April 1847	Jonathan Atkinson.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SOAP—continued.</b>			
Manufacture of soap - - - - -	12,208	11th July 1848	Leon Castelain.
Manufacture of soap - - - - -	12,446	30th Jan. 1849	Ewald Riepe.
Manufacture of soap - - - - -	12,685	4th July 1849	{ Josiah Bowden. William Longmaid.
Marking soap - - - - -	12,740	16th Aug. 1849	Arthur Dunn.
Manufacture of soap - - - - -	12,950	29th Jan. 1850	Ewald Riepe.
Treating fatty, oleaginous, resinous, bituminous, and cerous bodies; manufacture and application of them, and of their components and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [ <i>manufacture of soaps</i> ] - - - - -	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Manufacture of soap, and preparation of materials to be used for the purpose.	13,115	11th June 1850	William Jackson.
Manufacturing soap - - - - -	13,197	31st July 1850	Thomas Dickason Rotch.
Manufacture of soap - - - - -	13,270	3rd Oct. 1850	William Tudor Mabley.
Process and apparatus for manufacturing soap -	13,469	21st Jan. 1851	John Ransom St. John.
Machinery to be used in soap manufacturing -	13,490	3rd Feb. 1851	Alexander Alliot.
Manufacture of soap - - - - -	13,636	19th May 1851	Hugh Barclay.
Obtaining soap from wash-waters - - -	13,663	12th June 1851	William Birkett.
Manufacture of soap - - - - -	13,887	31st Dec. 1851	{ George Gwynne. George Fergusson Wilson.
Manufacture of soap - - - - -	14,109	1st May 1852	Charles Thomas.
Machinery for cutting soap into slabs, bars, or cakes	14,216	10th July 1852	Alfred Vincent Newton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING AND PREPARING FOR SPINNING.</b>			
<b>I.—Cleaning, batting, and scutching Fibrous Materials.</b>			
Instrument for breaking and dressing hemp and flax.	143	3rd March 1664	Abraham Hill.
Engine for beating flax and hemp - - -	238	22nd Jan. 1692	{ Charles Morton. Samuel Weale.
Engine for beating raw hemp - - -	436	12th Aug. 1721	Henry Browne.
Machine for opening and dressing wool - -	542	26th May 1733	John Kay.
Machine worked by water, wind, or horses for dressing, winnowing, and cleansing flax.	696	23rd Jan. 1775	William Daniel, junior.
Machine for breaking tow, hemp, and flax - -	1696	3rd Aug. 1789	Edmund Cartwright.
Dressing and preparing hemp, flax, wool, hair, silk, and cotton.	1747	27th April 1790	Edmund Cartwright.
Machinery for dressing wool, hemp, flax, silk, hair, and cotton.	1787	11th Dec. 1790	Edmund Cartwright.
Improvements upon, and additions to, machinery for manufacturing and fabricating wool, hemp, flax, silk, hair, and cotton, from the raw state of each respective article till made into yarn.	1876	15th May 1792	Edmund Cartwright.
Machine for cleaning and fining raw cotton, silk, and wool.	1935	27th Feb. 1793	James Axon.
Machine for dressing hemp - - -	1946	12th April 1793	Richard Fothergill.
Machine for batting cotton and wool - - -	2029	12th Jan. 1795	Thomas Connop.
Mixing seal's wool or down with lamb's wool; preparing it to be carded, roved, and spun into yarn, capable of being woven with silk, linen, woollen, or cotton, into a cloth fit for garments - - -	2401	13th May 1800	{ Robert Fryer. Samuel Fryer.
Machine for batting or beating and cleansing cotton.	2523	1st July 1801	Anthony Bowden.
Machine for batting, opening, and cleansing cotton and wool.	2602	30th March 1802	Thomas Connop.
Machine for beating and dressing cotton-wool, or flax.	2611	15th April 1802	James Pearson.
Machine for batting and cleansing cotton-wool and flax preparatory to spinning.	2614	26th April 1802	John Thomas.
Machine for batting and opening cotton-wool, sheep's wool, tow, hemp, and flax.	2633	2nd July 1802	William Walmaley.
Machine for dressing wool - - -	2708	30th May 1804	Samuel Godwin.
Manufacturing a material from the twigs or branches of broom, mallows, rushes, and other shrubs of the like species, to be used for the purposes and as a substitute for flax or hemp.	3356	3rd July 1810	James Hall.
Machine or instrument for dressing flax and preparing it for spinning.	3454	11th June 1811	George Gilpin.
Machinery for breaking and preparing flax and hemp.	4099	1st Feb. 1817	William Bundy.
Machinery for breaking flax and hemp - - -	4200	23rd Jan. 1818	Benjamin Wilson.
Opening raw cotton or cotton-wool, previous to carding and spinning the same.	4265	26th May 1818	Charles Greenway.
Machinery for breaking and preparing flax and hemp.	4354	1st April 1819	William Bundy.
Machinery for breaking and cleansing flax and hemp	4422	13th Dec. 1819	James Lee.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Substitute for flax or hemp; manufacturing the same [ <i>fibres of the hop plant</i> ] - - - - }	4436	5th Feb. 1820	{ George Shoobridge. William Shoobridge.
Machinery for preparing cotton and other fibrous substances [ <i>batting and scutching</i> ].	4485	11th July 1820	James White.
Construction of ginning machines employed in separating cotton-wool from the seeds.	4494	16th Aug. 1820	James Harvie.
Breaking flax and hemp; machinery for the purpose.	4545	27th March 1821	Ilario Pellafinet.
Cleaning furs and wools used in the manufacture of hats, from kemps and hairs - - - - }	4574	26th July 1821	{ Thomas Barker. John Rawlinson Harris.
Machine for breaking, cleansing, and preparing flax, hemp, and other vegetable substances containing fibre.	4734	16th Dec. 1822	William Bundy.
Machinery for breaking, scutching, and preparing flax and hemp for use upon an improved method, and thrashing out the seed thereof; applicable to the thrashing of any other kind of grain; and also for shelling clover and other seeds.	4930	25th March 1824	Namen Goodsell.
Machine for cleansing cotton and wool - - - -	5016	14th Oct. 1824	John George Bodmer.
Machinery for dressing flax, hemp, and other fibrous materials.	5168	14th May 1825	Edward Garsed.
Machinery for cleaning silk - - - - -	5276	1st Nov. 1825	Vernon Royle.
Machinery for breaking or preparing hemp, flax, and other fibrous materials.	5296	24th Nov. 1825	Augustus Count de la Garde.
Machinery for breaking, scutching, and cleaning hemp, flax, and other fibrous substances - - - }	5409	30th Aug. 1826	{ Robert Busk. William King Westly.
Machine for separating burs or other substances from wool, hair, or fur.	5411	19th Sept. 1826	Thomas Robinson Williams.
Machinery for dressing and clearing hemp, flax, and tow.	5508	16th June 1827	Solomon Robinson.
Machinery for dressing flax, hemp, tow, and other fibrous materials.	5634	29th March 1828	Peter Taylor.
Machinery for clearing and opening wool - - -	5654	13th May 1828	John Ford.
Machinery for preparing and dressing hemp, flax, silk, and other fibrous substances - - - - }	5715	9th Oct. 1828	{ Samuel Lawson. Mark Walker.
Preparing and manufacturing certain fibrous substances [ <i>New Zealand hemp and flax</i> ].	6263	28th April 1832	John Holt.
Machinery for preparing and dressing flax, hemp, and other fibrous materials.	6361	10th Jan. 1833	Thomas Moore Evans.
Reducing and preparing various vegetable substances, and manufacturing them into articles usually made from hemp and flax [ <i>obtaining fibres from tropical plants</i> ].	6429	1st June 1833	George Harris.
Machinery for cleaning wool or other such fibrous substances.	6459	13th Aug. 1833	Joshua Bates.
Machinery for preparing and dressing hemp, and other fibrous substances.	6745	15th Jan. 1835	Alexander Shanks, junior.
Preparing fibrous or textile plants, either indigenous or exotic, for use in place of flax or hemp [ <i>separating the fibres</i> ].	6774	25th Feb. 1835	William Newton.
Machinery for winding and cleaning hard and soft silk.	6976	8th Jan. 1836	William Harter.
Machinery for cleaning and preparing wool - - -	7062	16th April 1836	Joshua Bates.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Preparing or manufacturing the leaf of a certain plant so as to produce a fibrous substance not hitherto used in manufactures; application of the same to various purposes [ <i>separating the fibre from the leaf of the pine-apple</i> ].	7249	9th Dec. 1836	Frederic Burt Zincke, junior.
Discharging gum from silks, raw and manufactured.	7600	26th March 1838	Michael Wheelwright Ivison.
Applying certain textile and exotic plants as substitutes in various cases for flax, hemp, cotton, and silk [ <i>fibres of tropical plants</i> ].	7639	14th May 1838	Miles Berry.
Machinery or apparatus for preparing or dressing hemp, flax, and other such like fibrous materials.	7644	15th May 1838	Francis Thorpe.
Removing the fly-droppings, waste, and other matters falling below the cylinders, in the processes of willoving, devilling, batting, blowing, scutching, opening or mixing of cotton-wool, silk, flax, wool, or any other fibrous material.	7651	24th May 1838	John Radcliffe.
Machinery for dressing flax, hemp, and other fibrous materials.	7657	31st May 1838	Joshua Wordsworth.
Crushing or preparing New Zealand flax - -	7607	17th Dec. 1838	Barclay Farquharson Watson.
Machinery for preparing and cleansing wool for manufacturing purposes.	7681	11th Jan. 1839	John Swain Worth.
Preparing cocoa-nut fibre for manufacturing - -	7634	11th Jan. 1839	Robert Logan.
Rendering certain textile or fibrous plants applicable to spinning into yarns, in place of flax, hemp, and other fibrous materials commonly used for such purpose [ <i>the "stipa tenacissima" a grassy plant growing on the shores of the Mediterranean</i> ].	8273	19th Nov. 1839	Miles Berry.
Machinery for preparing fibrous substances for spinning [ <i>breaking the woody parts from raw flax, New Zealand flax and hemp</i> ].	8323	21st Dec. 1839	Joseph Gibbs.
Machinery for crushing and preparing flax, hemp, phormium tenax, and other fibrous substances.	8336	7th Jan. 1840	David Low.
Apparatus for preparing and dressing hemp, flax, and such other textile or fibrous materials.	8568	13th July 1840	Peter Fairbairn.
Machinery for cleaning cotton and wool - -	8579	29th July 1840	John George Bodmer.
Cleaning silk and other fibrous substances - -	8641	24th Sept. 1840	{ John Gibson. Thomas Muir.
Dressing flax and tow - - - - -	8738	16th Dec. 1840	James Molyneux.
Cleaning hemp, flax, and other fibrous substances -	8789	14th Jan. 1841	William King Westly.
Machinery for picking and cleaning cotton and wool	8879	15th March 1841	William Newton.
Cleaning and freeing wool and other fibrous materials from hurs and other extraneous substances.	9051	21st Aug. 1841	George Hicckes.
Obtaining and preparing the fibres and other products of the cocoa-nut and its husk.	9131	2nd Nov. 1841	Robert Logan.
Cleansing wool - - - - -	9196	21st Dec. 1841	William Newton.
Machinery for cleaning cotton and other fibrous substances.	9279	7th March 1842	John George Bodmer.
Cleansing wool - - - - -	9425	23rd July 1842	Joseph Partridge.
Machinery for beating, cleansing, and crushing various animal and vegetable materials or substances [ <i>beating and cleansing wool, cotton, flax, silk, hair, and other fibrous substances</i> ] - -	9628	10th July 1843	{ George Parsons. Richard Clyburn.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Cleaning flax and other fibrous substances - - -	9891	5th Oct. 1843	James Combe.
Machinery for dressing and cleaning flax, wool, silk, } and other fibrous substances - - - - - }	10,144	16th April 1844	{ John Lawson. Thomas Robinson.
Preparing or treating hemp, flax, and other textile plants.	10,451	31st Dec. 1844	Moses Poole.
Machinery for cleaning wool, cotton, and similar } fibrous materials - - - - - }	10,547	8th March 1845	{ John Sykes. Adam Ogden.
Modifications and applications of machinery and processes for cleaning, softening, dividing, and preparing flax, hemp, and other vegetable fibrous materials.	10,815	14th Aug. 1845	William Newton.
Machinery for cleaning or freeing wool and other fibrous substances from burs and other extraneous matters.	10,887	16th Oct. 1845	James Webster Hale.
Preparing "jute" for various purposes - - - -	11,126	11th March 1846	Frederick Crace Calvert.
Machinery for separating certain fibrous substances from seed and other extraneous matters [ <i>ginning cotton</i> ].	11,390	2nd Oct. 1846	Edmund Morewood.
Preparation of hemp and flax [ <i>to render them fit for heckling</i> ].	11,450	17th Nov. 1846	Robert Brett Shenck.
Machinery for crushing, bruising, and preparing flax, hemp, and other fibrous materials requiring such treatment.	11,558	1st Feb. 1847	John Thompson Carter.
Machinery for preparing cotton and other fibrous substances [ <i>opening, cleaning, &amp;c.</i> ].	11,796	17th July 1847	Pierre Armand le Comte de Fontaine Moreau.
Machinery for cleaning wool, cotton, and similar } fibrous substances from burs, motes, and other } extraneous matters - - - - - }	11,798	17th July 1847	{ John Sykes. Adam Ogden.
Machinery for separating burs, seeds, and other foreign matters from wool, cotton, and other fibrous substances.	11,942	4th Nov. 1847	John Lawson.
Machinery for burring and ginning wool, cotton, or similar fibrous materials.	12,134	27th April 1848	William Newton.
Preparing and dressing flax, tow, and other fibrous substances; machinery for the purpose.	12,201	6th July 1848	John Martin.
Roller-gin for separating the seed from cotton -	12,348	2nd Dec. 1848	Robert Burn.
Machinery for cleaning and preparing cotton-wool and other fibrous substances.	12,427	18th Jan. 1849	Francis Alton Calvert.
Machinery for breaking, scutching, cutting, and dressing flax, hemp, tow, wool, silk, and other fibrous substances.	12,434	23rd Jan. 1849	Thomas Robinson.
Machinery, instruments, and processes for the preparation and manufacture of flax and other fibrous materials [ <i>brushing and scutching</i> ].	12,515	14th March 1849	Robert Plummer.
Machinery or apparatus for preparing cotton and } other fibrous materials [ <i>weighing table for sup- } plying blowing machines</i> ] - - - - - }	12,535	26th Sept. 1849	{ John Mason. George Collier.
Separating the fibre from the cocoa-nut husks -	12,596	26th April 1849	John Barsham.
Machinery or apparatus for preparing cotton and other fibrous substances [ <i>for opening, willowing, and similar processes; apparatus for weighing cotton</i> ].	12,714	24th July 1849	John Holt.
Machinery for dressing flax, wool, and other fibrous substances.	12,770	13th Sept. 1849	Thomas Marsden.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for preparing, assorting, straightening, tearing, and teasing cotton-wool and other fibrous substances.	12,882	10th Dec. 1849	David Christie.
Preparing yarns or threads; machinery for the purpose [ <i>spiked roller for beating down the cotton as it passes through the teaser</i> ] - - - -	12,952	29th Jan. 1850	{ John Mason. Mark Smith.
Obtaining fibres from textile plants [ <i>the banana</i> ] -	12,957	31st Jan. 1850	Albert Duümmmler.
Machinery or apparatus and operations connected with the manufacture of cotton-wool, silk, and other fibrous substances; and the application of certain materials to the manufacture of textile fabrics [ <i>scutching machines</i> ] - - - -	13,072	7th May 1850	{ John Tatham. David Cheetham.
Machinery for cleaning wool, cotton, and similar fibrous substances, from burs, motes, and other extraneous matters - - - -	13,101	4th June 1850	{ John Sykes. Adam Ogden.
Machinery for preparing wool and hair for the carding, combing, and other manufacturing processes	13,236	22nd Aug. 1850	Daniel Illingworth.
Machinery for cleaning raw silk - - - -	13,274	10th Oct. 1850	Charles Bury.
Machinery or apparatus for preparing cotton-wool and other fibrous substances.	13,325	7th Nov. 1850	David Christie.
Cleaning and preparing wool and other fibrous or textile materials.	13,491	5th Feb. 1851	Benjamin Ledger Shaw.
Preparing, rotting and fermenting flax, line, grasses, and other fibrous vegetable substances.	13,570	24th March 1851	David Farrar Bower.
Machinery for opening, cleaning, and preparing fibrous substances [ <i>tow, waste of flax, hemp, also refuse of silk and wool</i> ].	13,651	3rd June 1851	Thomas Parker.
Machine to open and clean tow and tow-waste from flax and hemp and other similar fibrous substances - - - -	13,620	17th July 1851	{ Thomas Wilks Lord. George Wilson.
Preparation and treatment of fibrous and membranous substances, both in the raw and manufactured state, whereby they are cleaned, are rendered more durable, capable of contraction or expansion, of resisting decomposition, and of receiving and retaining colours - - - -	13,771	10th Oct. 1851	Richard Archibald Brooman.
Machinery for the preparation and manufacture of fibrous materials [ <i>machinery for cleaning and opening cotton</i> ] - - - -	13,784	22nd Oct. 1851	{ John Platt. Christian Schiele.
Treating fibrous substances [ <i>apparatus for desiccating silk and other fibrous substances to discover its weight; also process to discover foreign matters when they exist in silk</i> ].	13,900	20th Jan. 1852	Peter Armand le Comte de Fontainemoreau.
Machinery for preparing wool and other fibrous substances.	13,977	23rd Feb. 1852	Charles Cowper.
Treatment of wool, hair, feathers, fur, and other fibrous substances; machinery or apparatus for the purpose.	14,035	24th March 1852	William Henry Hulseberg.
Treatment and preparation of flax or other fibrous substances; application of some of the products to certain purposes.	14,126	22nd May 1852	William Watt.
Treatment and preparation of flax and hemp for dressing.	14,164	10th June 1852	Michael Joseph John Donlan.
Machinery for scutching or otherwise preparing flax and other like fibrous substances.	14,172	18th June 1852	William Cardwell M'Bride.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Obtaining wool, silk, and cotton from old fabrics, in a condition to be again used.	14,185	30th June 1852	Lazare Francois Vaudelin.
Treatment and preparation of flax and other fibrous vegetable substances.	14,224	15th July 1852	Charles James Pownall.
Machinery for scutching and cleaning flax straw -	14,301	23rd Sept. 1852	{ John Lawson. Edward Lawson.
Treatment of flax and hemp for dressing - -	14,307	30th Sept. 1852	Sarah Lester.
Mixing flax and hemp with other textile substances.	14,314	7th Oct. 1852	Pierre Armand le Comte de Fontainemoreau.
Machinery and process employed in and for the manufacture of flax and other fibrous vegetable substances [ <i>machinery for scutching</i> ].	14,334	21st Oct. 1852	John Charles Wilson.
<b>II.—Carding, combing, and heckling Fibrous Materials; making Cards and Combs.</b>			
<b>1. (Carding, combing, and heckling.)</b>			
Instrument of iron to be used in the trade of wool-combing, which is cast in such a form and contrived in such a manner that, a fire being made in the same, the combs receive the heat in such an equal proportion as neither to anneal the combs nor burn the wool.	456	27th June 1723	Isaac Mills.
Machine for carding wool and cotton - - -	628	20th Jan. 1748	Daniel Bourn.
Machine for carding wool, cotton, and raw silk -	636	30th Aug. 1748	Lewis Paul.
Machine for heckling, dressing, and dividing } vegetable, animal, and fossil substances - - }	1083	20th Oct. 1774	{ Robert Barber. Thomas Barber.
Machine for carding silk, cotton, and sheep's wool -	1130	15th July 1776	Thomas Wood.
Machine for carding cotton, silk, worsted, and woollen.	1212	18th Feb. 1779	Robert Peele.
Engine for carding short tow or hurds - - -	1391	3rd Oct. 1783	Benjamin Partridge.
Machine for combing wool, tow, hemp, flax, and cotton.	1696	3rd Aug. 1789	Edmund Cartwright.
Machine for combing hemp, flax, wool, hair, silk, and cotton.	1747	27th April 1790	Edmund Cartwright.
Machine for combing wool, hemp, flax, silk, hair, and cotton.	1787	11th Dec. 1790	Edmund Cartwright.
Improvements upon and additions to machinery for manufacturing and fabricating wool, hemp, flax, silk, hair, and cotton, from the raw state of each respective article till made into yarn.	1878	15th May 1792	Edmund Cartwright.
Machinery for combing wool, cotton, silk, flax, hemp, and mohair.	1955	8th June 1793	William Topleis.
Machinery for combing wool, cotton, silk, flax, } hemp and mohair - - - - - }	1956	8th June 1793	{ Henry Wright. John Hawkesley.
Machines for heckling flax and hemp, by water, steam, or horse mills, or by any other moving power, for the purposes of spinning.	2023	15th Nov. 1794	Walter Hart Stevenson.
Machine for combing and heckling, or preparing for combing and heckling, wool, hemp, flax, silk, cotton, and other fibrous materials; machinery for spinning the same or any other material, also adapted for cleaning or preparing the same for combing or heckling before spinning.	2044	21st March 1795	John Passinan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machine for combing wool, and heckling flax and hemp.	2059	3rd Aug. 1795	Anthony Amatt.
Carding cotton, silk, and wool - - - -	2100	17th March 1796	Richard Varley.
Combing wool, cotton, silk, flax, hemp, and mohair	2185	4th July 1797	John Hawksley.
Constructing, making, working, and using machines for combing wool.	2247	30th June 1798	John Pearce, junior.
Machine for carding, scribbling, dressing, and brushing wool.	2768	30th May 1804	Samuel Godwin.
Machine for heckling flax and hemp, and at the same time carding the tow.	2787	6th Oct. 1804	Thomas Porthouse.
Discharging wool-combs, by separating the tears from the noils, and drawing what are called slivers from the combs, after or before the combs are worked or the wool is combed upon the same.	2861	29th June 1805	James Noble.
Machine for heckling or dressing hemp, flax, and other materials.	3357	12th Aug. 1809	John Hives.
Machine or instrument for combing wool and preparing it for spinning; construction of a machine or breaking-frame, for drawing or cleaning wool from the combs; also a stove to be heated by fire or steam, for the purpose of heating the said combs.	3454	11th June 1811	George Gilpin.
Machine for combing wool, hemp, flax, waste silk, cotton and hair, or any other substance capable of being reduced to a sliver by the operation of combing.	3829	4th Aug. 1814	James Collier.
Construction of the cylinders used in carding-engines for carding cotton, flax, wool, silk, and mixtures of the said materials or substances - }	4764	18th March 1823	{ William Crighton. John Crighton.
Machinery for carding cotton and other wool, whereby the top cards are regularly stripped and kept clean, without the aid of hand labour.	4875	4th Dec. 1823	Archibald Buchanan.
Machinery for carding cotton and wool - - -	5016	14th Oct. 1824	John George Bodmer.
Preparation or manufacture of sliver or slivers, or tops from wool or wool and cotton, or other suitable fibrous materials.	5071	11th Jan. 1825	John Frederick Smith.
Apparatus for combing and straightening wool, cotton, and other like fibrous substances.	5088	19th Feb. 1825	Jesse Ross.
Machine for heckling and combing or dressing flax, hemp, or other fibrous materials.	5188	14th May 1825	Edward Garsed.
Scribbling and carding sheep's wool - - -	5209	16th July 1825	{ William Hirst. Henry Hirst.
Machinery used in scribbling and carding wool or other fibrous substances - - - - }	5224	26th July 1825	{ John Edward Brooke. James Hargrave.
Machines for scribbling and carding sheep's wool, cotton, or any other fibrous articles.	5303	3rd Dec. 1825	Ezekiel Edmonds.
Machine for carding wool, cotton, waste silk, short-stapled hemp, and flax.	5355	2nd May 1826	John Goulding.
Machinery for heckling or dressing hemp, flax, and other fibrous substances - - - - }	5409	30th Aug. 1826	{ Robert Busk. William King Westly.
Machines or machinery for piecing cardings from woollen or other carding-engines.	5486	24th April 1827	James Whitaker.
Machinery for heckling or dressing and clearing hemp, flax, and tow.	5508	16th June 1827	Solomon Robinson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for combing wool and other fibrous substances.	5560	10th Nov. 1827	John Platt.
Machinery for rolling or rollering wool from the carding-engine.	5566	22nd Nov. 1827	William John Dowding.
Machine for heckling or combing flax, hemp, tow, and other fibrous materials.	5634	29th March 1828	Peter Taylor.
Machinery for carding wool, cotton, short-stapled flax, hemp, and silk, either separately or combined.	5654	13th May 1828	John Ford.
Carding engine for wool and other fibrous substances.	6192	22nd Nov. 1831	David Selden.
Machinery for carding cotton and other fibrous materials.	6274	5th June 1832	Hugh Bolton.
Dressing or preparing hemp, flax, New Zealand flax, and other vegetable fibrous substances, to render them fit for spinning and for other purposes.	6360	9th Jan. 1833	Joseph Gibbs.
Machine for combing wool and other fibrous materials.	6413	25th April 1833	James Noble.
Machinery for combing wool or other such fibrous substances.	6459	13th Aug. 1833	Joshua Bates.
Machinery for heckling flax, hemp, and other fibrous substances requiring such process.	6518	6th Dec. 1833	Joshua Wordsworth.
Combing wool - - - - -	6559	20th Feb. 1834	James Noble.
Machinery for carding cotton, flax, wool, silk, and other fibrous materials.	6564	27th Feb. 1834	James Smith.
Engines used for carding wool - - - - -	6625	12th June 1834	James Whitaker.
Heckling machine - - - - -	6769	24th Feb. 1835	James Kay.
Combing wool and other fibrous substances - -	6806	3rd April 1835	{ George Edmund Donia- thorpe. Henry Rawson.
Construction of a machine for carding cotton and other fibrous substances.	6874	7th Aug. 1835	Samuel Faulkner.
Machine for combing or brushing flax, wool, and other fibrous materials into teeth set in a cylinder, to separate the longer from the shorter fibres.	6914	23rd Oct. 1835	John Baring.
Engines used for carding cotton-wool and other fibrous substances - - - - -	6949	9th Dec. 1835	{ Jeremiah Horsfall. James Kenyon.
Machinery for carding cotton and other fibrous substances.	6970	31st Dec. 1835	John Hyde.
Machinery for combing or brushing or separating wool.	6994	3rd Feb. 1836	John Baring.
Machinery or apparatus for heckling or combing and preparing hemp, flax, tow, and other vegetable fibrous substances, and also waste silk.	7005	17th Feb. 1836	Michael Hodge Simpson.
Combing wool and other fibrous substances - -	7047	29th March 1836	James Noble.
Machinery for carding wool, and doffing the cardings of wool.	7161	4th Aug. 1836	John Archibald.
Construction of cylinders used in engines for carding cotton-wool, silk, and other fibrous materials.	7262	21st Dec. 1836	John Crighton.
Machinery for heckling or combing hemp, flax, tow, and other vegetable fibres.	7330	27th March 1837	Miles Berry.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Improvements applicable to the combing of wool and goat's hair.	7362	6th May 1837	Henry Ross.
Machinery for carding and piecing wool in process of manufacture in woollen mills	7374	22nd May 1837	{ William Rhodes. Robert Hemingway.
Machinery for combing or clearing sheep's wool and goat's hair	7377	23rd May 1837	{ Samuel Smith. William Smith.
Machinery for heckling or combing hemp, flax, tow, and all other such vegetable fibres.	7452	26th Oct. 1837	Miles Berry.
Carding engines to be used for carding cotton and other fibrous substances.	7481	18th Nov. 1837	Thomas Birch.
Machinery or apparatus for heckling hemp, flax, and other similar fibrous materials.	7644	15th May 1838	Francis Thorpe.
Removing the fly-droppings, waste, and other matters which fall below the cylinders and beaters in the processes of carding.	7651	24th May 1838	John Radcliff.
Machinery for heckling flax, hemp, and other fibrous materials.	7657	31st May 1838	Joshua Wordsworth.
Machinery for carding wool, cotton flax, or other fibrous substances.	7733	12th July 1838	Joseph Bennett.
Machinery for combing wool and certain descriptions of hair.	7740	18th July 1838	Henry Ross.
Wool-combing - - - - -	7764	6th Aug. 1838	Pierre Armand le Comte de Fontainemoreau.
Machinery for carding cotton, flax, wool, silk, and other fibrous substances.	7837	22nd Oct. 1838	John George Bodmer.
Machinery for carding cotton, flax, wool, or any other fibrous substance.	7943	19th Jan. 1839	Joseph Garnett.
Machinery for combing flax, hemp, phormium tenax, and other fibrous substances.	8336	7th Jan. 1840	David Low.
Apparatus applicable to feeding machinery employed in carding, scribbling, or teasing fibrous materials.	8497	7th May 1840	Thomas Walker.
Machinery for carding wool, cotton, silk, flax, and other fibrous substances.	8519	28th May 1840	Edmund Leach.
Machine for heckling, combing, &c. flax, hemp, and such other textile or fibrous materials.	8568	13th July 1840	Peter Fairbairn.
Machinery for carding cotton and wool - - -	8579	29th June 1840	John George Bodmer.
Machinery for combing wool and other textile substances.	8693	7th Nov. 1840	George Edmund Donisthorpe.
Carding-engines for carding wool or other fibrous substances.	8753	23rd Dec. 1840	John Jones.
Machinery for carding wools and hair "Filofinisher"	8786	14th Jan. 1841	Pierre Armand le Comte de Fontainemoreau.
Carding, combing, and straightening hemp, flax, and other fibrous substances.	8789	14th Jan. 1841	William King Westly.
Machinery for combing or preparing wool and other fibrous substances.	8836	8th Feb. 1841	Thomas Fuller.
Combing wool and certain descriptions of hair -	9121	15th Oct. 1841	Henry Ross.
Wool-combing apparatus - - - - -	9142	9th Nov. 1841	Jesse Ross.
Improvements applicable to combing fibrous substances.	9241	29th Jan. 1842	John James Baggaly.
Machinery for carding cotton and other fibrous substances.	9279	7th March 1842	John George Bodmer.
Machinery for carding cotton-wool, flax, silk, and similar fibrous materials.	9363	24th May 1842	Thomas Waterhouse.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Combing wool and certain descriptions of hair -	9404	6th July 1842	George Edmund Donisthorpe.
Machinery for preparing and combing wool and goat's hair.	9408	7th July 1842	Charles Augustus Preller.
Machinery for preparing and combing wool and other fibrous materials.	9453	25th Aug. 1842	Thomas Hendry.
Machinery for dressing or heckling flax and hemp -	9466	8th Sept. 1842	{ Thomas Marsden. Solomon Robinson.
Woollen carding-engines - - - - -	9493	20th Oct. 1842	{ Henry Brown. Thomas Walker.
Combing wool and other fibrous substances - -	9636	17th Feb. 1843	Henry Ross.
Machinery for carding cotton and other fibrous substances.	9760	8th June 1843	John Burns Smith.
Machinery for carding wool, cotton, and other fibrous materials.	9769	10th June 1843	Samuel Sparkes.
Combing wool and other fibrous substances - -	9780	15th June 1843	George Edmund Donisthorpe.
Means of covering the cylinders of carding and scribbling engines with wire-cards; rovings delivered from such engines, and condensing the same; apparatus for sharpening or grinding the points of the cards; which latter apparatus may also be employed for grinding other articles	9788	15th June 1843	{ George Lister. Edwin Budding.
Machinery for carding cotton and other fibrous substances.	9854	25th July 1843	Samuel Faulkner.
Heckling and carding flax and other fibrous substances.	9891	5th Oct. 1843	James Combe.
Machinery for preparing and combing wool, hair, and other fibrous substances.	9938	16th Nov. 1843	William Edward Newton.
Combing wool and other fibrous substances - -	9966	25th Nov. 1843	George Edmund Donisthorpe.
Carding silk, cotton, and other fibres - - -	10,074	24th Feb. 1844	Henry Brown.
Machinery for heckling and combing flax, wool, silk, and other fibrous substances - - - }	10,144	16th April 1844	{ John Lawson. Thomas Robinson.
Carding engines - - - - -	10,334	27th Sept. 1844	William Henry Ritchie.
Preparing and combing wool - - - - -	10,336	27th Sept. 1844	Samuel Cunliffe Lister.
Machinery for combing wool - - - - -	10,433	12th Dec. 1844	John Perry.
Machinery or apparatus for preparing and carding wool.	10,465	11th Jan. 1845	Samuel Porritt.
Preparing and combing wool - - - - -	10,646	1st May 1845	James Ambler, senior.
Machinery for combing and heckling wool, flax, tow, and other fibrous substances.	10,872	10th Oct. 1845	John Whitehead.
Carding and combing wool - - - - -	11,004	12th Dec. 1845	Samuel Cunliffe Lister.
Combing wool - - - - -	11,013	22nd Dec. 1845	Alfred Vincent Newton.
Heckling or dressing flax, hemp, and other fibrous substances.	11,193	5th May 1846	Peter Carmichael.
Combing, carding, treating, or preparing fibrous substances.	11,367	3rd Sept. 1846	George Senior.
Combing wool - - - - -	11,461	25th Nov. 1846	Henry Robert Ramsbotham.
Combing wool - - - - -	11,469	1st Dec. 1846	Samuel Cunliffe Lister.
Machinery for carding cotton-wool and other fibrous substances.	11,486	14th Dec. 1846	John Shaw.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Combing wool, and preparing wool for combing and carding - - - - -	11,508	21st Dec. 1846	{ John Perry. James Noble.
Carding wool, cotton, and other fibrous substances -	11,511	31st Dec. 1846	Stephen R. Parkhurst.
Improvements in the preparation of gutta-percha, and in the application thereof, alone and in combination with other materials, to manufacturing purposes; which improvements are also applicable to other substances [ <i>backs of cards for carding wool</i> ].	11,575	10th Feb. 1847	Charles Hancock.
Machinery for opening and carding cotton and other fibrous substances.	11,645	29th March 1847	Samuel Hardacre.
Heckling flax, and treating wool previous to spinning.	11,743	12th June 1847	George Edmund Donisthorpe.
Machinery for dressing or combing flax, wool, and other fibrous substances.	11,857	6th Sept. 1847	Thomas Marsden.
Carding and combing wool and other fibrous substances - - - - -	11,896	7th Oct. 1847	{ Samuel Cunliffe Lister. Isaac Holden.
Carding-engines for carding wool and other fibrous substances.	12,096	14th March 1848	James Porritt.
Machinery for carding cotton-wool, alpaca, mohair, flax, silk, and other fibrous materials.	12,116	10th April 1848	James Derham.
Machinery for carding wool and cotton, and similar fibrous materials.	12,134	27th April 1848	William Newton.
Combing wool, alpaca, mohair, and other fibrous materials.	12,281	5th Oct. 1848	Joseph Sharp Bailey.
Preparing, heckling, and combing wool and other fibrous substances.	12,289	19th Oct. 1848	Samuel Cunliffe Lister.
Machinery for heckling and carding flax, hemp, tow, silk, and other fibrous substances.	12,299	26th Oct. 1848	Peter Fairbairn.
Machinery for heckling, combing, and carding flax, hemp, tow, wool, silk, and other fibrous materials.	12,434	23rd Jan. 1849	Thomas Robinson.
Machinery, instruments, and processes for the preparation and manufacture of flax and other fibrous materials [ <i>heckling-machine</i> ].	12,515	14th March 1849	Robert Plummer.
Carding cotton and other fibrous substances - -	12,579	19th April 1849	John Ormerod.
Preparing, combing, and heckling fibrous matters -	12,603	8th May 1849	{ George Edmund Donisthorpe. John Whitehead.
Machinery for carding flax, cotton, silk, and other fibrous materials.	12,693	4th July 1849	John Combe.
Combing wool - - - - -	12,712	18th July 1849	{ Samuel Cunliffe Lister. George Edmund Donisthorpe.
Machinery for heckling, combing, or dressing flax, wool and other fibrous substances.	12,770	13th Sept. 1849	Thomas Marsden.
Machinery for heckling flax and hemp - - -	12,832	2nd Nov. 1849	James Combe.
Machinery or apparatus for preparing cotton and other textile materials; method of preparing yarns or threads; machinery or apparatus for such purposes [ <i>carding machines</i> ] - - - - -	12,952	29th Jan. 1850	{ John Mason. Mark Smith.
Preparing and combing wool and other fibrous materials - - - - -	13,009	20th March 1850	{ Samuel Cunliffe Lister. George Edmund Donisthorpe.
Preparing and combing wool - - - - -	13,013	23rd March 1850	{ Henry Robert Ramsbotham. William Brown.
Heckling machinery - - - - -	13,104	6th June 1850	George Jackson.
Machinery for carding cotton-wool or other fibrous materials.	13,114	11th June 1850	William Edward Newton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Piecing wool-cardings; machinery for the purpose -	13,150	21th June 1850	Joshua Vickerman Binns.
Machinery for preparing all descriptions of wool and hair grown upon animals, for the carding, combing, and other manufacturing processes.	13,238	22nd Aug. 1850	Daniel Illingworth.
Machinery for preparing and carding fibrous substances.	13,278	10th Oct. 1850	William Henry Ritchie.
Machinery for heckling and carding flax, and combing wool; machinery for making parts of such machines.	13,289	17th Oct. 1850	Thomas Richards Harding.
Weaving and preparing fibrous materials [ <i>apparatus for rubbing or crushing, scutching and heckling, flax, hemp, and other fibrous materials, continuously in one machine</i> ].	13,294	24th Oct. 1850	Thomas Beale Brown.
Machinery for carding cotton-wool and other fibrous substances.	13,325	7th Nov. 1850	David Christie.
Manufacture of coloured yarns of wool and other fibres [ <i>arranging fibres of different colours on the carding-engine, for the purpose of producing parti-coloured slicers</i> ].	13,491	5th Feb. 1851	Benjamin Ledger Shaw.
Preparing and combing wool and other fibrous materials.	13,532	24th Feb. 1851	Samuel Cunliffe Lister.
Machinery for carding cotton and other fibrous substances.	13,539	3rd March 1851	James Leach.
Manufacture of certain yarns of linen, wool, silk, cotton, or other fibrous substances [ <i>producing parti-coloured yarns from the ordinary carding-engine</i> ].	13,551	10th March 1851	George Roberts.
Machinery and apparatus for combing wool and other fibrous substances; applying or working the same.	13,553	13th March 1851	Jease Ross.
Machinery applicable to engines for carding cotton and other fibrous substances.	13,657	10th June 1851	Robert Alexander Kennedy.
Machinery for combing wool, flax, silk, hemp, and tow - - - - -	13,794	3rd Nov. 1851	{ Thomas Greenwood. James Warburton.
Preparing and combing wool, alpaca, mohair, and other fibrous materials - - - - -	13,822	20th Nov. 1851	{ Joseph Sharp Bailey. Isaac Bailey.
Machinery for combing and heckling flax and other fibrous materials.	13,825	22nd Nov. 1851	Thomas Marsden.
Preparing and combing wool and other fibrous materials - - - - -	13,950	2nd Feb. 1852	{ Samel Cunliffe Lister. James Ambler.
Screws [ <i>of varying pitch, for screw-gill machinery used in wool-combing</i> ] - - - - -	13,957	9th Feb. 1852	{ John Feather. Jeremiah Driver.
Machinery for combing wool and other fibrous substances.	13,977	23rd Feb. 1852	Charles Cowper.
Machinery for combing wool and other fibrous substances.	14,003	8th March 1852	Alfred Vincent Newton.
Treatment of wool, hair, feathers, fur, and other fibrous substances; machinery or apparatus for the purpose [ <i>carding curled hair, cocoa-nut fibres, &amp;c.</i> ]	14,035	24th March 1852	William Henry Hulseberg.
Preparing and combing wool and other fibrous materials.	14,045	27th March 1852	Jean Jacques Bourcart.
Machinery for combing wool, silk, cotton, and other fibrous substances.	14,050	29th March 1852	John Whitehead.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Process of preparing flax and hemp for heckling; machinery for heckling flax, hemp, china-grass, and other vegetable fibrous substances - - -	14,124	8th May 1852	{ Peter Fairbairn. Peter Swires Horsman.
Treating and preparing cotton and other fibrous substances before being spun [ <i>combing</i> ].	14,135	22nd May 1852	Samuel Cunliffe Lister.
Machinery for preparing and heckling flax, tow, hemp, cotton, and other fibrous substances.	14,162	10th June 1852	Thomas Wilkes Lord.
Machines for combing cotton, flax, silk, and other fibrous materials.	14,188	24th June 1852	Thomas Bazley.
Machinery for carding cotton-wool, flax, and other fibrous materials.	14,231	20th July 1852	John Shaw.
Preparing and straightening wool and other fibrous materials.	14,266	19th Aug. 1852	Henry Rawson.
Machinery for combing wool, cotton, silk, hair, and other fibrous materials - - - - -	14,292	16th Sept. 1852	{ Charles Augustus Preller. John Eastwood. Samuel Gamble.
Machinery and apparatus for preparing wool, hair, flax, silk, and all other fibrous materials [ <i>combing and heckling</i> ].	14,325	18th Oct. 1852	William Brown.
<b>2. (Making Cards and Combs.)</b>			
Machine or engine for pricking the leathers of wool, silk, cotton, or any other cards.	657	13th Oct. 1750	William Pennington.
Making the cards and other parts of the machinery used for carding cotton, silk, and wool.	2100	17th March 1796	Richard Varley.
Constructing, making, working, and using combs and machines for combing wool.	2247	30th June 1798	John Pearce.
Making cards for carding cotton-wool, silk, and other things - - - - -	2322	26th June 1799	{ Amos Whittmore. Clement Sharp.
System of card-making for carding wool and tow, by a method of cutting teeth for the purpose.	2887	6th Nov. 1806	James Royston.
Manufacturing cards for carding and spinning flax, tow, wool, cotton, and silk, combining the quality of a fine card with the strength of a coarse one.	3204	9th Feb. 1809	John Stead.
Construction of machines for making cards for carding wool, cotton, flax, silk, and all substances capable of being carded - - - - -	3278	21st Nov. 1809	{ John Towill Rutt. John Tretton. John Webb.
Improved apparatus to machines for making fillet, sheet, and hard cards, such as are used for carding wool, cotton, flax, silk, and all substances capable of being carded - - - - -	3388	8th Oct. 1810	{ John Towill Rutt. John Webb. John Tretton.
Machinery to be used and applied in manufacturing cards for carding wool, cotton, silk, flax, tow, and other fibrous materials.	3498	30th Oct. 1811	Joseph Chesseborough Dyer.
Machinery for manufacturing cards for carding wool, cotton, silk, tow, and other fibrous materials.	3862	15th Dec. 1814	Joseph Chesseborough Dyer.
Machinery for making wire-cards; also a machine for shaving and preparing leather for the purpose.	5309	9th Dec. 1825	Joseph Chesseborough Dyer.
Preparing wire-cards - - - - -	5504	8th June 1827	Joseph Clisild Daniell.
Cards for carding wool, cotton, silk, and other fibrous substances.	5584	27th March 1834	James Walton.
Machinery for pointing wire;—applicable for making cards.	6917	29th Oct. 1835	John Birkby.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Combs for combing wool - - - - -	7706	27th June 1838	John Perry.
Machinery for making wire-cards for carding cotton-wool, silk, tow, and other fibrous substances.	7818	21st Sept. 1838	James Walton.
Cards for carding various fibrous substances } [ <i>manufacturing the backs, of india-rubber</i> ] - - }	8039	20th April 1839	{ John Potts. William Horsfall.
Machinery for making wire-cards for carding } cotton, silk, wool, and other fibrous substances }	8326	21st Dec. 1839	{ John Cutts. Thomas Spencer.
Cards for carding cotton-wool, silk, flax, and other fibrous substances.	8651	1st Oct. 1840	William Horsfall.
Machinery or apparatus for grinding, sharpening, or setting the teeth of cards or other similar apparatus employed for carding or operating upon cotton-wool or other fibrous substances.	9091	20th Sept. 1841	Joseph Hulme.
Machinery or apparatus for making cards for carding cotton and other fibrous substances.	9207	21st Dec. 1841	William Carr Thornton.
Manufacture of wire-cards - - - - -	9267	25th Feb. 1842	John Birkby.
Machinery for grinding and sharpening cards used in carding cotton or other fibrous material.	9726	15th May 1843	Robert Alexander Kennedy.
Apparatus for sharpening or grinding the points of the cards used in carding and scribbling engines;—may also be employed for grinding other articles - - - - -	9788	15th June 1843	{ George Lister. Edwin Budding.
Wire-cards for carding cotton-wool, flax, silk, and other fibrous substances, and for producing tow and yarns from hard waste - - - - -	10,082	27th Feb. 1844	{ Richard Kitson. John Garthwaite.
Manufacture of gutta-percha, and its applications alone and in combination with other substances [ <i>making cards for carding wool</i> ].	11,032	12th Jan. 1846	Charles Hancock.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of card-backs</i> ] - - }	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Machinery for grinding the cards of carding-engines	11,645	29th March 1847	Samuel Hardacre.
Machinery for making cards - - - - -	11,814	24th July 1847	{ John Platt. Thomas Palmer.
Machinery or apparatus for preparing cotton and other fibrous substances [ <i>carding-engines</i> ].	12,714	24th July 1849	John Holt.
Manufacture of cards - - - - -	12,720	1st Aug. 1849	Eugène Alexandre Desire Boucher.
Apparatus for preparing or setting the cards of carding-engines.	13,114	11th June 1850	William Edward Newton.
Tools or apparatus for making cards and other parts of preparation machinery - - - - -	13,408	12th Dec. 1850	{ John Mason. George Collier.
<b>III.—Drawing and roving Fibrous Materials; preparing for Spinning.</b>			
Prepared steel-hemp - - - - -	155	24th Dec. 1667	Eustace Burneby.
Instrument for winding silk - - - - -	213	2nd Aug. 1681	John Joachin Becher.
Engine for winding silk - - - - -	265	10th Nov. 1690	John Barkstead.
Engine for winding the finest raw silk - - - - -	422	9th Sept. 1718	Thomas Lombe.
A foot-wheel for the more even and perfect drawing of single raw silk.	519	21st Sept. 1730	Richard Wilder.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Making an engine for drawing cotton - - -	982	12th June 1770	James Hargraves.
Machines for preparing silk, cotton, flax, and wool for spinning.	1111	16th Dec. 1775	Richard Arkwright.
Machine for roving silk, cotton, and sheep's wool -	1130	15th July 1776	Thomas Wood.
Machinery for preparing cotton for spinning - -	1131	16th July 1776	Thomas Dewhurst.
Engine for drawing and twisting cotton-wool, } sheep's wool, silk, and flax - - - - }	1151	10th April 1777	{ Edward Hallam. Thomas Heys.
Machine for preparing cotton-wool, sheep's wool, hemp, and flax.	1168	1st Sept. 1777	William Vickers.
Machine for slubbing and roving cotton, silk, worsted, and woollen.	1212	18th Feb. 1779	Robert Peele.
Machine for roving sheep's and lamb's wool for making cloth, or for other purposes where woollen yarn is used.	1532	21st Feb. 1786	Paul Higton.
Machine for roving and slubbing woollen, worsted, and linen yarn.	1584	18th Oct. 1786	John Royds.
Machinery for preparing wool, tow, hemp, flax, and cotton.	1696	3rd Aug. 1789	Edmund Cartwright.
Machinery for preparing hemp, flax, wool, hair, silk, and cotton.	1747	27th April 1790	Edmund Cartwright.
Machinery for preparing wool, hemp, flax, silk, hair, and cotton.	1787	11th Dec. 1790	Edmund Cartwright.
Improvements upon and additions to machinery for manufacturing and fabricating wool, hemp, flax, silk, hair, and cotton, from the raw state of each respective article till made into yarn.	1876	15th May 1792	Edmund Cartwright.
Machine for roving wool, silk, cotton, flax, hemp, and other materials.	1917	6th Nov. 1792	John Roger Teschemacher.
Machinery for twisting cotton and sheep's wool whilst being drawn.	1949	18th April 1793	Matthew Etchells.
Machinery for preparing wool, cotton, silk, flax, hemp, and mohair for spinning.	1955	8th June 1793	William Toplis, junior.
Machinery for preparing wool, cotton, silk, flax, } hemp, and mohair for spinning - - - }	1956	8th June 1793	{ Henry Wright. John Hawkealey.
Machine or "equalinum," to be applied to and used with rollers, wheels, or any other instruments for the purpose of preparing flax, hemp, tow, wool, jersey, hair, or any other animal, vegetable, or fossil substance.	1961	16th Sept. 1793	Daniel Dakeyne.
Machines for preparing flax, hemp, tow, wool, and silk.	1971	18th Dec. 1793	Mathew Murray.
Machines to prepare flax and hemp, by water, steam, horse mills, or any other power, for spinning, which will be of great public utility in the manufacture of linen, sail-cloth, and cordage.	2023	15th Nov. 1794	Walter Hart Stevenson.
Preparing flax, hemp, tow, and other things, by } heckles and machines worked by water, steam, or horse mills for spinning, and which will be of great utility in manufacturing linen, sail-cloth, cordage, and several other things - - - }	2034	19th Jan. 1795	{ William Sellars. Peter Standage.
Machinery for preparing wool, hemp, flax, silk, hair, or cotton, for spinning.	2044	21st March 1795	John Passman.
Roving cotton, silk, and wool; making parts of machinery used for the purpose.	2100	17th March 1796	Richard Varley.
Machinery for roving cotton - - - -	2166	7th Feb. 1797	Aaron Garlick.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Making and working machines for drawing out flax or wool combed by hand, into a perpetual sliver, and which machines may be worked by water, steam, horse-mills, or other moving power.	2172	11th March 1797	William Sellars.
Machine for roving all kinds of wool, hemp, flax, silk, mohair, or other materials.	2177	25th March 1797	John Passman.
Machine for roving cotton, flax, hemp, worsted yarn, and wool.	2182	13th Sept. 1797	Samuel Stansfield.
Making and working machines for preparing wool, cotton, flax, hemp, and other materials, without drums or belts, and which machines may be worked by water, steam, horse-mills, or other moving power.	2228	18th April 1798	William Sellars.
Preparing flax, hemp, silk, and other materials -	2469	3rd Feb. 1801	{ Thomas Parker. William Telfer. Alexander Afleck.
Preparing flax, hemp, silk, and other materials -	2607	8th April 1802	{ Thomas Parker. William Telfer. Alexander Afleck.
Treating or preparing hemp and flax so as to aid the heckles in the division of the fibre, and in other operations.	2719	28th June 1803	Archibald Earl of Dundonald.
Slivering and preparing hemp, flax and substitutes for hemp and flax, previously to spinning.	2817	5th Feb. 1805	John Heppenstall.
Roving-machine for preparing flax, tow, and wool, } for spinning - - - - -	3087	9th Dec. 1807	{ Mark Laybourn. Richard Milbourn.
Preparing certain kinds of hemp - - - - -	3096	13th Jan. 1808	{ James Lee. John Perrin.
Machinery for preparing, roving, and slubbing } cotton, flax, hemp, tow, worsted, wool, silk, or any other substance - - - - -	3179	8th Nov. 1808	{ John Hartley. John Musgrave. William Farmery.
Preparing hemp, flax, hurds, short tow, clearings } and other inferior parts of hemp and flax, alone or mixed with cotton-wool, for the purpose of spinning - - - - -	3255	8th Aug. 1809	{ Thomas Dickin. Henry Bradley.
Machinery for roving cotton, silk, flax, wool, mohair, and other materials.	3360	7th July 1810	Richard Varley.
Machines for roving cotton, flax, tow, hemp, wool, and silk.	3445	7th May 1811	Thomas Cranfield.
Machine for preparing flax and drawing wool -	3454	11th June 1811	George Gilpin.
Preparing hemp and flax for various uses, by which also other vegetable substances may be made applicable to many purposes for which hemp and flax are now used.	3574	9th June 1812	James Lee.
Machinery for roving cotton, silk, flax, and wool.	3633	1st Jan. 1813	Joseph Raynor.
Preparing flax for spinning on the like machinery } as cotton - - - - -	3779	10th Feb. 1814	{ John Kershaw. John Wood.
Preparing flax and hemp and other substances containing fibre.	3855	17th Nov. 1814	Horace Hall.
Machinery for preparing cotton-wool and various other articles.	3879	4th Feb. 1815	John Wood.
Preparing flax and hemp for various uses, by which also other vegetable substances may be made applicable to many purposes for which hemp and flax are now used.	3964	5th Dec. 1815	James Lee.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for swingling and preparing flax and hemp.	4206	23rd Jan. 1818	Benjamin Wilson.
Machinery for roving cotton and wool - - -	4272	18th June 1818	William Eaton.
Machinery for preparing hemp, flax, and other vegetable fibrous substances.	4292	31st Aug. 1818	William Salisbury.
Preparing and roving wool - - - - -	4307	12th Nov. 1818	James Hadden, junior.
Machinery for the preparation of hemp or flax, and other fibrous vegetable substances.	4369	11th May 1819	John Lowder.
Machinery for preparing flax and hemp for use; also applicable to other vegetable fibrous substances.	4422	13th Dec. 1819	James Lee.
Preparing cotton, silk, flax, fur, and other fibrous substances.	4430	15th Jan. 1820	Joseph Main.
Preparing flax and hemp for spinning - - -	4463	3rd June 1820	William Bate.
Machinery for preparing wool, cotton, and other fibrous materials.	4485	11th July 1820	James White.
Preparing flax and hemp for spinning - - -	4545	27th March 1821	Harrio Pellafinet.
Method and machinery for preparing wool, silk, mohair, or other animal fibre, of any quality or length of staple.	4748	16th Jan. 1823	William Lister.
Machinery for drawing and roving hemp, flax, and waste silk.	4756	18th Feb. 1823	Philip Chell.
Construction of the cylinders used in machines employed in the preparation for the spinning of cotton, flax, wool, silk, and mixtures of the said materials or substances - - - - -	4764	18th March 1823	{ William Crighton. John Crighton.
Machinery for roving cotton, flax, silk, wool, or other fibrous substances.	4807	26th June 1823	John Green.
Machinery for roving wool, cotton, silk, flax, and other fibrous substances.	4833	18th Aug. 1823	Thomas Leach.
Machinery for drawing and roving flax, wool, waste silk, or other fibrous substances.	5015	14th Oct. 1824	Philip Chell.
Machinery for drawing and roving cotton and wool.	5010	14th Oct. 1824	John George Bodmer.
Slubbing-machines - - - - -	5070	11th Jan. 1825	William Hirst.
Preparation or manufacture of slivers or tops, from wool, or wool and cotton, or other suitable fibrous materials.	5071	11th Jan. 1825	John Frederick Smith.
Construction of a machine applicable to the purpose of preparing rovings of cotton, flax, wool, or any other fibrous substance - - - - -	5079	11th Jan. 1825	{ Jonathan Andrew. Gilbert Tarlton. Joseph Shepley.
Machinery for reducing wool into slivers or threads having more hair points projecting than is usual with worsted.	5159	7th May 1825	William Davis.
Machinery for drawing and roving cotton-wool and other fibrous substances.	5196	21st June 1825	John Frederick Smith.
Conducting to and winding upon bobbins, rovings of cotton, flax, wool, or other fibrous substances.	5217	16th July 1825	Joseph Chesseborough Dyer.
Machinery for preparing flax, hemp, and other fibrous substances, by power.	5226	26th July 1825	James Kay.
Machinery for preparing, drawing, and roving flax, hemp, and waste silk - - - - -	5294	17th Nov. 1825	{ Alexander Lamb. William Suttill.
Drawing and roving wool, cotton, and other fibrous substances.	5320	19th Jan. 1826	John Frederick Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machines for roving wool, cotton, waste silk, short-stapled hemp, and flax.	5355	2nd May 1826	John Goulding.
Machinery for roving flax, hemp, cotton, and other fibrous materials.	5365	23rd May 1826	Francis Molineux.
Machinery used for drawing and roving sheep's and lambs' wool.	5369	14th July 1826	Edward Bayliffe.
Machinery for preparing rovings of fibrous substances.	5432	18th Dec. 1826	Maurice De Jough.
Machinery for drawing and slubbing wool and cotton.	5486	24th April 1827	James Whitaker.
Machines adapted for roving or preparing cotton and other fibrous substances.	5576	4th Dec. 1827	Maurice De Jough.
Machinery for roving or slivering cotton, short-stapled flax, hemp and silk.	5654	13th May 1828	John Ford.
Machines for roving cotton, silk, wool, or other fibrous substances.	5669	19th Aug. 1828	William Sharpe.
Manufacture or application of silks, mixed or combined with other articles [ <i>preparing for spinning</i> ].	5667	2nd Nov. 1829	Francis Naish.
Machinery for conducting to and winding upon bobbins or barrels, rovings of cotton, flax, wool, or other fibrous substances.	5699	27th Feb. 1830	Joseph Chesseborough Dyer.
Mechanism to render self-acting, billies, jack-frames, and other machines for roving or slubbing cotton or other fibrous substances.	5949	1st July 1830	Richard Roberts.
Roving-frames or cove-frames, otherwise bobbin and fly frames or jack-frames.	5969	5th Aug. 1830	William Lane.
Machinery for roving cotton, flax, hemp, and } other fibrous substances - - - - - }	6001	21st Sept. 1830	{ Francis Molyneux. William Bundy.
Preparing Cashmere wool - - - - -	6037	13th Nov. 1830	Charles Stuart Cochrane.
Roving-machine - - - - -	6074	11th Feb. 1831	George Gorham Gardner.
Machinery for giving a degree of consistency to rovings of cotton and other fibrous substances, and for winding the same on to bobbins, barrels, or spools.	6088	26th Feb. 1831	David Selden.
Roving-frames and slubbing-frames used for preparing cotton-wool for spinning.	6133	13th July 1831	John Milne.
Machinery for spreading, drawing, or roving flax, hemp, and other fibrous substances, dressed or undressed.	6168	24th Sept. 1831	James Lang.
Machinery for roving cotton, silk, wool, hemp, flax, or other fibrous substances.	6185	27th Oct. 1831	Joshua Bates.
Slubbing-engine for wool and other fibrous substances.	6192	22nd Nov. 1831	David Selden.
Machinery for preparing, drawing, and roving flax, hemp, wool, and other fibrous materials.	6287	26th July 1832	Joshua Wordsworth.
Machinery for roving cotton and other fibrous substances.	6313	29th Sept. 1832	John Travis.
Dressing or preparing hemp, flax, New Zealand flax, and other like substances, for spinning, paper-making and other purposes.	6360	9th Jan. 1833	Joseph Gibbs.
Making rovings of cotton, silk, flax, and other fibrous substances.	6427	25th May 1833	James Jones.
Roving-frames for roving cotton and other fibrous substances.	6448	11th July 1833	William Newton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for preparing, drawing, or roving hemp, flax, wool, and other fibrous substances - - }	6464	20th Aug. 1833	{ William King Westly. Samuel Lawson.
Roving-frames for roving cotton and other fibrous substances.	6472	21st Sept. 1833	John Scott Howard.
Billy, stretching-frame, or other machine for roving cotton, silk, wool, flax, hemp, or other fibrous substances.	6475	21st Sept. 1833	John Robertson.
Machinery for roving cotton and other fibrous materials - - - - - }	6552	6th Feb. 1834	{ Benjamin Dobson. John Sulcliff. Richard Threlfall.
Machinery used in preparing cotton, flax, wool, and other fibrous substances.	6560	20th Feb. 1834	James Smith.
Preparing phormium-tenax, hemp, flax, and other fibrous substances, and rendering the same fit for heckling, in the manufacture of linen.	6612	24th May 1834	Andrew Smith.
Machinery for roving and slubbing cotton and wool	6620	3rd June 1834	Richard Simpson.
Certain improvements applicable to the machinery used in the preparation for spinning wool and other fibrous substances.	6629	17th June 1834	Charles Wilson.
Machinery used for making twisted rovings of cotton, flax, silk, wool, and other fibrous substances.	6639	7th July 1834	William Higgins.
Machinery for slubbing and roving cotton and other fibrous substances.	6698	20th Oct. 1834	Malcolm M'Gregor.
Making rovings of cotton, silk, flax, and other fibrous substances.	6699	20th Oct. 1834	James Jones.
Preparing, slivering, or roving hemp, flax, and other fibrous substances.	6741	23rd Dec. 1834	Peter Fairbairn.
Machinery for preparing and roving cotton and wool.	6841	27th May 1835	John George Bodmer.
Machinery for winding upon spools, bobbins, or barrels, slivers or rovings of cotton-wool and other fibrous substances - - - - }	6863	17th July 1835	{ Joseph Cheseborough Dyer. James Smith.
Drawing and slubbing frames used in the manufacture of cotton and other fibrous substances.	6951	9th Dec. 1835	John Houldsworth.
Machinery for preparing flax and hemp - - -	6954	16th Dec. 1835	{ Daniel Dewhurst. Thomas Hope. Joseph Hope. Isaac Hope.
Machinery for roving cotton and other fibrous substances.	6975	6th Jan. 1836	John Ramsbottom.
Machinery for drawing hard and soft silk - -	6976	8th Jan. 1836	William Harter.
Machinery used in preparing cotton, silk, wool, and other fibrous materials - - - - }	6986	5th Feb. 1836	{ Edmund Ashworth. James Greenough.
Preparation of cotton and other fibrous substances, and conveyance of the same to roving-frames.	7073	26th April 1836	Thomas Aitken.
Machinery for roving cotton and other fibrous substances.	7075	30th April 1836	John Burns Smith.
Twisting-machinery used in the preparation for spinning or twisting cotton, flax, wool, hemp, and other fibrous substances.	7127	22nd June 1836	William Wright.
Machinery for doffing, straightening, piecing, roving, and drawing cardings of wool.	7161	4th Aug. 1836	John Archibald.
Machinery for preparing hemp or flax for spinning, part of which machinery is also applicable to the preparing of cotton-wool and silk for spinning.	7204	8th Oct. 1836	John Sharp.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for preparing cotton and other fibrous substances.	7220	10th Nov. 1836	Joel Livsey.
Manufacture of silk, and silk in combination with certain other fibrous substances [ <i>discharging gum from silk-waste slivers</i> ]	7228	19th Nov. 1836	{ John Gordon Campbell. John Gibson.
Treatment of cotton-wool in preparation for manufacturing the same into yarn and thread.	7256	15th Dec. 1836	William Sharpe.
Producing slubbings of wool - - - - -	7290	26th Jan. 1837	Joshua Cuttel.
Machinery for preparing wool and the waste of cotton-wool, for spinning.	7318	7th March 1837	John Shaw.
Machinery for manufacturing woollen and some other cloths [ <i>preparing cardings of wool previous to spinning</i> ].	7327	21st March 1837	James Walton.
Machinery for preparing and roving hemp, flax, tow, and other vegetable fibres.	7330	27th March 1837	Miles Berry.
Preparing cotton, silk, and other fibrous substances	7341	15th April 1837	Horatio Nelson Aldrich.
Construction and arrangement of preparation-machinery.	7393	17th June 1837	William Nicholson.
Preparing flax and hemp for spinning - - - -	7408	19th July 1837	Henry Goschen.
Machinery for preparing and roving hemp, flax, tow, and other such vegetable fibres.	7452	26th Oct. 1837	Miles Berry.
Apparatus applicable to machinery used in preparing cotton and other fibrous materials for spinning [ <i>compressing the slier delivered from drawing-frames</i> ].	7598	19th March 1838	James Hill.
Preparing silk-waste, wool, flax, and other fibrous substances.	7600	26th March 1838	Michael Wheelwright Iverson.
Machinery applicable to the preparation of cotton and other fibrous substances for spinning.	7669	5th June 1838	David Cheetham.
Machinery for roving cotton, flax, wool, silk, or other fibrous substances.	7700	22nd June 1838	Peter Fairbairn.
Machinery partly applicable to drawing and roving wool, cotton, flax, or other fibrous substances.	7733	12th July 1838	Joseph Bennett.
Machinery for drawing wool and certain descriptions of hair.	7740	18th July 1838	Henry Ross.
Machinery for roving cotton, flax, silk, wool, and other fibrous materials - - - - -	7755	31st July 1838	{ Joseph Rayner. Joseph Whitehead Rayner. Henry Samuel Rayner.
Machinery for drawing and roving cotton, flax, wool, silk, and other fibrous substances.	7837	22nd Oct. 1838	John George Bodner.
Application of an improved covering for the rollers used in preparing, drawing, slubbing, roving, &c., wool, cotton-wool, flax, silk, mohair, or other fibrous material or substance.	7914	19th Dec. 1838	John Radcliffe.
Machinery for roving cotton and other fibrous materials.	7929	11th Jan. 1839	John Howarth.
Machinery for preparing flax, hemp, and other fibrous substances, by power.	8168	24th July 1839	James Kay.
Machinery used in the preparation of cotton and other fibrous substances.	8177	1st Aug. 1839	Thomas Knowles.
Machinery for preparing and roving cotton and other fibrous substances.	8272	16th Nov. 1839	John Burns Smith.
Machinery for drawing cotton and other fibrous substances.	8363	28th Jan. 1840	Thomas Aitken.
Machinery for preparing cotton, flax, wool, and other fibrous substances - - - - -	8411	3rd March 1840	{ William Craig. William Douglas Sharp.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for drawing, slubbing, and roving } cotton-wool, flax, silk, and other fibrous materials - - - - - }	8426	13th March 1840	{ Richard Smith. Richard Hacking.
Machinery for and mode of preparing hemp, flax, and other fibrous substances, for spinning.	8514	22nd May 1840	James Buchanan.
Machinery for preparing wool, cotton, silk, flax, and other fibrous substances.	8519	28th May 1840	Edmund Leach.
Machinery used for roving cotton-wool, silk, flax, and other fibrous materials.	8556	26th June 1840	Thomas Spencer.
Machinery for preparing cotton and other fibrous materials for spinning.	8570	15th July 1840	Edwin Travis.
Machinery for roving and drawing cotton and wool	8579	29th July 1840	John George Bodmer.
Machine for preparing wool and other textile substances.	8693	7th Nov. 1840	George Edmund Donisthorpe.
Machinery for drawing cotton and other fibrous substances.	8763	31st Dec. 1840	Francis Burdett Whitaker.
Preparing hemp, flax, &c., for spinning - - -	8789	14th Jan. 1841	William King Westly.
Preparing cotton, silk, wool, and other fibrous substances; machines for the purpose.	8796	19th Jan. 1841	James Smith.
Drawing flax, hemp, wool, silk, and other fibrous substances.	8810	26th June 1841	Peter Fairbairn.
Machinery for roving and slubbing cotton and other fibrous substances.	8827	2nd Feb. 1841	Francis Sleddon.
Machinery or apparatus for roving cotton, silk, wool, and other fibrous materials.	8908	30th March 1841	Thomas Gore.
Machinery for preparing flax, silk, and other fibrous substances.	8910	31st March 1841	William Jenkinson.
Machinery for roving cotton, silk, wool, worsted, flax, and other fibrous substances.	8988	12th June 1841	Ezekiel Jones.
Machinery for preparing cotton and other fibrous substances for spinning.	9000	23rd June 1841	James Sidebottom.
Machinery for preparing hemp, flax, wool, and other } fibrous materials - - - - - }	9044	11th Aug. 1841	{ William Craig. Robert Jarvie. James Jarvie.
Machinery for roving and slubbing cotton and other fibrous substances.	9057	27th Aug. 1841	Samuel Hardman.
Drawing wool and certain descriptions of hair -	9121	15th Oct. 1841	Henry Ross.
Method of preparing silk and other fibrous substances for spinning.	9169	9th Dec. 1841	Archibald Templeton.
Machinery for roving cotton and other fibrous substances.	9279	7th March 1842	John George Bodmer.
Preparing cotton-wool, flax, hemp, and other fibrous } materials - - - - - }	9313	6th April 1842	{ John Smith. James Buchanan.
Drawing wool and certain descriptions of hair -	9404	6th July 1842	George Edmund Donisthorpe.
Machinery for drawing wool and goats' hair - -	9408	7th July 1842	Charles Augustus Preller.
Preparing cotton-wool, silk, flax, and other fibrous } substances, for spinning - - - - - }	9481	29th Sept. 1842	{ James Hyde. John Hyde.
Machinery to be used in preparing cotton, flax, and other fibrous substances.	9494	20th Oct. 1842	Thomas Seville.
Machinery for preparing cotton-wool, flax, silk, and similar fibrous materials.	9536	3rd Dec. 1842	Thomas Howard.
Machinery for preparing cotton and other fibrous substances for spinning.	9621	31st Jan. 1843	Samuel Kirk.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Drawing wool and other fibrous substances - -	9696	17th Feb. 1843	Henry Ross.
Machinery for preparing hemp and other fibrous materials.	9725	15th May 1843	John Tappan.
Machinery for preparing wool, cotton, flax, silk, or any other fibrous bodies.	9754	1st June 1843	Martyn John Roberts.
Machinery for preparing and roving cotton and other fibrous substances.	9760	8th June 1843	John Burns Smith.
Rovings delivered from carding and scribbling engines; condensing the said rovings - -	9788	15th June 1843	{ George Lister. Edwin Budding.
Preparing flax and other fibrous substances - -	9891	5th Oct. 1843	James Combe.
Machinery for preparing cotton and other fibrous substances for spinning.	9928	4th Nov. 1843	Robert Raynsford Jackson.
Machinery used for preparing cotton-wool, flax, silk, and similar fibrous materials.	9978	8th Dec. 1843	Joseph Lamb.
Drawing cotton and other fibrous substances - -	10,001	28th Dec. 1843	{ James Champion. Thomas Marsden.
Slubbing cotton and other fibrous substances -	10,080	24th Feb. 1844	James Smith.
Machinery to be employed in the preparation of cotton-wool and other fibrous substances - -	10,106	14th March 1844	{ John Tatham. David Cheetham.
Apparatus applicable to preparation-machines used in spinning cotton and other fibrous substances.	10,117	20th March 1844	John Holland Butterworth.
Apparatus and process for preparing phormium-tenax, or New Zealand flax.	10,137	2nd April 1844	James Murdoch.
Machinery for the preparation of cotton and wool -	10,150	18th April 1844	Richard Roberts.
Wheels to be used in slubbing or bobbin frames, roving or jack frames; engine for cutting such wheels - - - - -	10,160	27th April 1844	{ Josiah Clarke. Samuel Fletcher.
Machinery for preparing cotton-wool, flax, and other fibrous substances.	10,198	23rd May 1844	William Johnson.
Roving cotton-wool and other fibrous substances -	10,228	18th June 1844	Alexander Simon Wolcott.
Machinery for preparing, slubbing, and roving cotton-wool and other fibrous substances.	10,382	7th Nov. 1844	John Groom.
Machinery for roving cotton, flax, silk, wool, and other fibrous substances.	10,480	18th June 1845	Edward Brown Wilson.
Machinery for drawing and roving hemp, flax, tow, silk, wool, and other fibrous substances.	10,518	10th Feb. 1845	Peter Fairbairn.
Machinery for preparing cotton-wool, flax, silk, and similar fibrous materials.	10,537	3rd March 1845	Thomas Schofield Whitworth.
Machines for preparing to be spun cotton-wool and other fibrous substances.	10,575	27th March 1845	Charles Pooley.
Machinery for preparing cotton-wool, flax, silk, and similar fibrous material - - - - -	10,584	2nd April 1845	{ James Higgins. Thomas Schofield Whitworth.
Machinery for preparing, roving, and slubbing cotton-wool and other fibrous substances.	10,627	22nd April 1845	James Ivers.
Machinery for preparing, roving, and slubbing cotton and other fibrous substances.	10,674	22nd May 1845	James Fletcher.
Tube-flyers used in machinery for roving and slubbing cotton and other fibrous substances.	10,676	22nd May 1845	Thomas Bazley.
Certain parts of machinery for preparing cotton-wool and other fibrous substances for spinning.	10,722	17th June 1845	Benjamin Fothergill.
Machines for slubbing, roving, or preparing to be spun, cotton and other fibrous substances - -	10,725	19th June 1845	{ Charles Hague. William Madeley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for preparing flax and other fibrous substances	10,833	18th Sept. 1845	{ Charles Murland. Edward Lawson.
Machinery used in preparing cotton or other fibrous substances for spinning.	10,843	2nd Oct. 1845	John Kershaw.
Machinery for preparing cotton and other fibrous substances for spinning.	10,883	20th Nov. 1845	William Johnson.
Machinery or apparatus for preparing cotton and other fibrous substances	10,892	10th Dec. 1845	{ George Leach Ashworth. Wilson Crossley.
Machinery applicable to the preparation of cotton-wool, silk, flax, and other fibrous substances.	11,012	22nd Dec. 1845	William M'Lardy.
Machines for preparing to be spun cotton-wool and other fibrous materials.	11,103	25th Feb. 1846	Josue Heilmann.
Machinery or apparatus to be employed in the preparation of cotton and other fibrous substances.	11,110	25th Feb. 1846	John Platt.
Preparing for spinning worsted and other yarns	11,130	11th March 1846	Benjamin Shaw.
Certain parts of machinery for the preparation for spinning of cotton-wool and other fibrous substances	11,243	16th June 1846	{ Benjamin Fothergill. Richard Johnson.
Machinery for preparing flax and other fibrous materials.	11,247	20th June 1846	John Simson.
Machinery for preparing, slubbing, and roving cotton-wool and other fibrous substances.	11,258	22nd June 1846	Thomas Jones.
Machinery or apparatus to be used in the preparation of cotton and other fibrous substances	11,271	29th June 1846	{ John Tatham. David Cheetham. John Wallace Duncan.
Machinery for preparing, slubbing, and roving cotton and other fibrous substances.	11,293	14th July 1846	William Seed.
Machinery for drawing and roving flax, hemp, silk, and other fibrous substances	11,393	2nd Oct. 1846	{ Peter Fairbairn. Peter Carmichael.
Machinery for preparing, slubbing, and roving cotton-wool and other fibrous substances.	11,400	8th Oct. 1846	John Warburton.
Machinery for preparing cotton and other fibrous substances.	11,423	22nd Oct. 1846	William Anderson.
Parts of machines used in the preparation for spinning of cotton-wool and other fibrous substances.	11,458	21st Nov. 1846	James Denton.
Machinery for drawing, slubbing, and roving cotton-wool and other fibrous substances.	11,486	14th Dec. 1846	John Shaw.
Machinery to be used in the preparation of cotton and other fibrous substances for spinning.	11,542	23rd Jan. 1847	Francis Preston.
Roving flax and other fibres	11,579	15th Feb. 1847	Solomon Leatham.
Machinery applicable to preparing flax, hemp, and other fibrous substances.	11,676	27th April 1847	John Morgan.
Machinery for preparing cotton-wool and other fibrous substances	11,683	4th May 1847	{ John Elce. Richard Blandsdale.
Laying and pressing cotton, silk, wool, flax, and other fibrous materials into cans, baskets, boxes, or other depositories.	11,697	8th May 1847	Joshua Fieldin.
Roving wool and flax	11,743	12th June 1847	George Edmund Donisthorpe.
Machinery for preparing cotton and other fibrous substances.	11,747	15th June 1847	Richard Roberts.
Machinery or apparatus to be used in the preparation of cotton-wool and other fibrous substances.	11,753	15th June 1847	James Houghton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Improvements in or applicable to certain machines for preparing cotton-wool and other fibrous substances.	11,755	19th June 1847	James Hill.
Machinery for preparing cotton and other fibrous materials - - - - - }	11,814	24th July 1847	{ John Platt. Thomas Palmer.
Preparing wool and other fibrous substances - - -	11,896	7th Oct. 1847	{ Samuel Cunliffe Lister. Isaac Holden.
Machines used for preparing to be spun cotton and other fibrous substances - - - - - }	11,902	14th Oct. 1847	{ Matthew Curtis. Robert Lakin.
Construction of machinery for preparing alpaca, mohair, wool, flax, and other fibrous materials.	11,952	9th Nov. 1847	Edward Waud.
Machinery for preparing cotton-wool, alpaca, mohair, flax, silk, and other fibrous materials.	12,116	10th April 1848	James Derham.
Machinery or apparatus applicable to the preparation of cotton-wool, flax, silk, and other fibrous substances - - - - - }	12,150	9th May 1848	{ William M'Lardy. Joseph Lewis.
Machinery for drawing flax, tow, and other fibrous substances.	12,201	6th July 1848	John Martin.
Machinery or apparatus for preparing cotton and other fibrous substances - - - - - }	12,232	8th Aug. 1848	{ John Metcalfe. Robert Halliwell.
Preparing and drawing wool, alpaca, mohair, and other fibrous materials.	12,281	5th Oct. 1848	Joseph Sharp Bailey.
Machinery for drawing and roving flax, hemp, tow, silk, and other fibrous substances.	12,299	26th Oct. 1848	Peter Fairbairn.
Machinery or apparatus to be employed in the preparation of cotton and other fibrous substances.	12,367	11th Dec. 1848	Edmund Hartley.
Machinery for drawing and roving flax, hemp, tow, wool, silk, and other fibrous substances.	12,434	23rd Jan. 1849	Thomas Robinson.
Machinery for preparing cotton-wool, flax, silk, and similar fibrous materials - - - - - }	12,441	25th Jan. 1849	{ Robert Shaw. Samuel Fletcher Cottam.
Machines for preparing to be spun cotton and other fibrous substances.	12,445	27th Jan. 1849	James Green Gibson.
Preparing fibrous substances for spinning; machinery connected therewith.	12,448	30th Jan. 1849	Lemuel Wellman Wright.
Machinery for the preparation of cotton and other fibrous substances.	12,476	13th Feb. 1849	Edward Lord.
Machinery or apparatus for preparing cotton and other fibrous materials [ <i>laying rovings into cans</i> ]	12,535	26th March 1849	{ John Mason. George Collier.
Machinery for preparing wool for spinning - - -	12,622	29th May 1849	{ Edmund Grundy. Jacob Farrow.
Machinery for preparing and roving cotton-wool [ <i>extension of J. G. Bodmer's patent No. 6841 for five years, from 27th May 1849</i> ].	12,641	5th June 1849	Thomas Hornby Birley.
Preparing wool and other fibrous materials - - -	12,712	18th July 1849	{ Samuel Cunliffe Lister. George Edmund Donisthorpe.
Machinery or apparatus for preparing cotton and other fibrous substances [ <i>roving-frames</i> ].	12,714	24th July 1849	John Holt.
Machinery for preparing cotton-wool, flax, silk, and similar fibrous materials - - - - - }	12,785	24th Sept. 1849	{ James Higgins. Thomas Schofield Whitworth.
Machinery for preparing cotton and other fibrous substances - - - - - }	12,805	12th Oct. 1849	{ Robert Lakin. William Henry Rhodes.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery or apparatus applicable to the preparation of cotton-wool, silk, flax, and other fibrous substances.	12,822	2nd Nov. 1849	George Paul Macindoe.
Machinery to be used in preparing cotton and other fibrous substances.	12,823	2nd Nov. 1849	Adam Cottam.
Machinery for preparing cotton, flax, and other fibrous substances - - - - - }	12,870	3rd Dec. 1849	{ Peter Fairbairn. John Hetherington.
Machinery or apparatus for preparing cotton and other fibrous substances - - - - - }	12,873	3rd Dec. 1849	{ William Eccles, senior. William Eccles, junior. Henry Eccles.
Machinery or apparatus used for preparing cotton-wool, flax, silk, and similar fibrous materials - }	12,887	12th Dec. 1849	{ John Henry Jenkinson. Thomas Priestley.
Machinery for preparing cotton and other textile materials - - - - - }	12,952	29th Jan. 1850	{ John Mason. Mark Smith.
Machinery or apparatus for preparing cotton and other fibrous substances.	13,027	26th March 1850	Evan Leigh.
Machinery or apparatus and operations connected with the manufacture of cotton-wool, silk, and other fibrous substances, and the application of certain materials to the manufacture of textile fabrics [ <i>slubbing and roving machines; transferring slivers from cans on to bobbins</i> ] - - - }	13,072	7th May 1850	{ John Tatham. David Cheetham.
Machinery or apparatus for preparing cotton-wool and other fibrous materials - - - - - }	13,085	29th May 1850	{ James Ashworth. Thomas Mitchell.
Machinery or apparatus for preparing cotton and other fibrous materials.	13,127	12th June 1850	William McLardy.
Improvements in or applicable to machines for preparing cotton-wool and other fibrous substances for spinning and doubling.	13,173	15th July 1850	James Hill.
Machinery or apparatus for preparing cotton, flax, and other fibrous substances; constructing and applying models for moulding, preparatory to casting parts of such machinery; tools to be used in making such machinery - - - - - }	13,208	31st July 1850	{ Peter Fairbairn. John Hetherington.
Preparation of materials for spinning - - - - - }	13,224	16th Aug. 1850	Peter Clausen.
Machinery or apparatus for preparing silk-waste, cotton-wool, flax, or other fibrous materials.	13,273	10th Oct. 1850	Charles Bury.
Apparatus for regulating the draught of the sliver on the machine termed a drawing-frame.	13,282	10th Oct. 1850	Whiting Hayden.
Machinery for drawing wool and other fibrous materials, and machinery for making parts of such machines.	13,389	17th Oct. 1850	Thomas Richards Harding.
Preparing cotton and other textile materials for spinning - - - - - }	13,408	12th Dec. 1850	{ John Mason. George Collier.
Machinery for preparing cotton and other fibrous substances.	13,780	22nd Oct. 1851	Ephraim Hallum.
Machinery for drawing wool, silk, flax, hemp, and tow - - - - - }	13,794	3rd Nov. 1851	{ Thomas Greenwood. James Warburton.
Machinery for preparing wool and other fibrous substances.	13,977	23rd Feb. 1852	Charles Cowper.
Machinery for preparing cotton and other fibrous substances [ <i>roving-frames</i> ] - - - - - }	13,990	26th Feb. 1852	{ John Elce. John Bond.
Machinery for preparing and drawing wool, silk, cotton, and other fibrous substances.	14,050	29th March 1852	John Whitehead.
Machinery for drawing cotton-wool, silk, flax, and other fibrous substances - - - - - }	14,061	15th April 1852	{ Edwin Pettitt. James Forsyth.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for preparing cotton and other fibrous substances, for reversing the direction of motion in and for regulating the speed of machines [roving-frames].	14,075	17th April 1852	John Knowles.
Preparing cotton-wool and other fibrous materials; apparatus for constructing parts of machines used in such manufactures - - -	14,140	22nd May 1852	{ John Mason. George Collier.
Machinery for preparing cotton and other fibrous materials [flyers for slubbing and roving frames].	14,241	29th July 1852	James Denton.
Machinery or apparatus for preparing cotton and other fibrous substances.	14,267	19th Aug. 1852	Henry Spencer.
Machinery for drawing or preparing wool, cotton, silk, hair, and other fibrous materials - - -	14,292	16th Sept. 1852	{ Charles Augustus Preller. John Eastwood. Samuel Gamble.
Preparing wool, hair, flax, silk, and all other fibrous materials.	14,325	18th Oct. 1852	William Brown.
<b>IV.—Spinning, twisting, and throwing Fibrous Materials.</b>			
Spinning-engine, whereby from six to one hundred spinners and upwards may be employed by the strength of one or two persons to spin linen and worsted thread, with such ease and advantage that a child of three or four years of age may do as much as a child of seven or eight years old, and others as much in two days as without this their invention they can in three days - - -	202	18th April 1678	{ Richard Derham. Richard Haines.
Engine for throwing silk, whereby the same may be wrought as cheap and as well as in any part beyond the seas.	265	10th Nov. 1690	John Barkstead.
Making spinnall yarn - - - - -	286	2nd Jan. 1692	{ Ralph Marshall. John Eglebert Teshmaker.
Making spinnall yarn - - - - -	289	22nd Feb. 1692	Ralph Marshall.
Three sorts of engines, one to wind the finest raw silk, another to spin, and another to twist the finest Italian raw silk into organzine.	422	9th Sept. 1718	Thomas Lombe.
Several new engines by certain multiplying wheels to spin and mix in the first thread, wool, flax, cotton, silk, &c., into a fine, even, and better thread than heretofore - - - - -	459	5th Dec. 1723	{ Thomas Thwaites. Francis Clifton.
Machine for throwing and manufacturing all sorts of fine single and double raw silk.	462	15th Dec. 1725	Thomas Teeton.
Spinning of hemp, flax, and hair by a more true, easy, and different way than hath hitherto been found out.	508	19th April 1729	Martin Bedwell.
Several new inventions for improving the art of throwing silk hereafter mentioned; namely, the first is by supplying the place of the hand in winding and the want of the lead in throwing of raw silk, by the pressure of two smooth surfaces; also two machines for doubling and yielding together three threads of raw silk; and another machine (with bobbins fitted thereto) to double raw silk on the spindle, as the same moves round in throwing; and likewise a frame, and bobbins put on the spindle, for the more expeditious throwing of single and double raw silk; and also a new invented foot-wheel for the more even and perfect drawing of single raw silk.	519	21st Sept. 1730	Richard Wilder.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machine or engine for spinning wool and cotton in a manner entirely new.	562	24th June 1738	Lewis Paul.
Machine for manufacturing wool-yarn - - -	591	7th July 1743	Richard Brooks.
Engine for spinning of cotton-wool into yarn - -	693	3rd July 1754	James Taylor.
Machine for spinning wool, cotton and raw silk, by a mode entirely new.	724	29th June 1758	Lewis Paul.
Piece of machinery for the making of weft or yarn from cotton, flax, and wool, much superior in quality to any heretofore manufactured or made.	931	3rd July 1769	Richard Arkwright.
Method of making an engine of an entire new construction (never before used), for spinning and twisting cotton, to be managed by one person only, which will spin, draw, and twist sixteen or more threads at a time, by a motion of one hand and a draw of the other.	962	12th June 1770	James Hargraves.
Method of throwing silk to make crape and tiffany -	1013	15th April 1772	John Crumpler.
Machine or engine of an entire new construction, and never before made use of, whereby the spinning of wool and jersey, tow and flax into thread or yarn, may be performed in a far more expeditious manner than the same hath hitherto ever been done.	1016	11th June 1772	Coniah Wood.
Machine for spinning and twisting into threads or wires different kinds of vegetable, animal, and fossil substances - - - - -	1099	20th Oct. 1774	{ Robert Barber. Thomas Barber.
Machine for throwing all sorts of yarns made of cotton-wool, silk, flax, hemp, mohair, or any other material.	1126	6th June 1776	Henry Marsland.
Machines for spinning cotton - - - - -	1131	16th July 1776	Thomas Dewhurst.
Engine for spinning and twisting of cotton-wool, the wool of sheep, also silk and flax, after a new and more expeditious method - - - - -	1151	10th April 1777	{ Edward Hallam. Thomas Heys.
Instrument or machine for the preparing and spinning flax, hemp, tow, silk, cotton-wool, and sheep's wool, by a method entirely new.	1168	1st Sept. 1777	William Vickers.
Machine for spinning cotton, silk, worsted, and woollen.	1212	18th Feb. 1779	Robert Peele.
Engine or machine for regulating and spinning wool, silk, cotton, flax, hemp, &c.	1236	15th Nov. 1779	Richard March.
Method of spinning jersey, by a new and useful engine, machine, or instrument never before known or used.	1268	28th March 1781	George Dundas.
Machine or instrument for spinning woollen yarn, and for spinning cotton-wool into yarn, so as to make it fit for warps, and answer every purpose better than that which is spun by the hand.	1357	20th Feb. 1783	Peter Brotherston.
Engine or machine for reducing and spinning of wool, flax, cotton-wool, mohair, and other vegetable productions, into thread.	1365	3rd May 1783	Thomas Barber.
Machine for spinning hards or refuse flax; also flax and hemp - - - - -	1368	7th May 1783	{ Thomas Oldham. George Prestwidge.
Method of spinning and carding short tow, or what is commonly called hurds, by means of a spinning and carding engine.	1391	3rd Oct. 1783	Benjamin Partridge.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machine for the purpose of spinning wool, hemp, flax, cotton, silk, and mohair.	1450	11th Sept. 1784	Henry Richards.
Machine or mill for throwing silk and for spinning cotton-wool, hemp, and flax.	1524	28th Jan. 1786	Nicholas Gordelier.
Machines for spinning sheep's and lambs' wool, for the purpose of making cloth, or any and every other purpose wherein woollen yarn is used, and which may be worked by water, horse, hand, or any other thing that is capable of giving motion to the same.	1532	21st Feb. 1786	Paul Higton.
Machines for the purpose of spinning woollen and linen yarn in a manner not heretofore used or practised.	1564	18th Oct. 1786	John Royds.
Machine for throwing and organizing of silk, and for throwing and twisting worsted, mohair, thread, cotton, hemp, flax, and gold and silver cords.	1606	19th May 1787	Thomas Sandys.
Mill or machine for spinning yarn from hemp, tow, flax, or wool - - - - -	1613	19th June 1787	{ John Kendrew. Thomas Porthouse.
Machinery for winding upon the pin, wool, tow, hemp, flax, and cotton.	1696	3rd Aug. 1789	Edmund Cartwright.
Machine for spinning yarn from silk, cotton, hemp, tow, flax, and wool.	1752	1st June 1790	Matthew Murray.
Spinning-wheel for spinning and at the same time reeling or winding flax, hemp, rope yarn, and other articles from the smallest thread to the largest.	1811	28th May 1791	Jean Arnoux.
Improvements upon and additions to machinery for manufacturing and fabricating wool, hemp, flax, silk, hair, and cotton from the raw state of each respective article till made into yarn and twist.	1876	15th May 1792	Edmund Cartwright.
Machinery to be applied to spinning-machines -	1879	15th May 1792	William Kelly.
Machine for twisting silk, cotton, and wool - -	1896	5th July 1792	Peter Atherton.
Machine for improving the present mode of spinning wool, silk, cotton, flax, hemp, and other materials, which keeps the threads from breaking down, requires the attendance of fewer hands, saves the raw materials which in the present methods of spinning are greatly wasted, prevents the frames from being clogged up, greatly reducing the price of new spinning-frames, by discontinuing therein the expensive part which produces the heart-motion.	1917	6th Nov. 1792	John Roger Teechemacher.
Spinning-machines on an improved construction -	1936	15th March 1793	Paul Tate.
Machine for spinning of flax, hemp, tow, wool, jersey, hair, into yarn or thread; "Equalinum."	1961	16th Sept. 1793	Daniel Dakeyne.
Instruments and machines for spinning of flax, hemp, tow, wool, and silk.	1971	18th Dec. 1793	Matthew Murray.
Thread or yarn produced by mixing and spinning together certain materials into one single thread, for making hosiery, flannels, kerseymeres, cloths, and all or most other articles into which the materials of which it is composed are capable of being separately manufactured or worked.	1984	7th May 1794	Richard Cartwright.
Spinning flax, hemp, tow and other things, by heckles and machines worked by water, steam, horse-mills, or other moving power - - -	2034	19th Jan. 1795	{ William Sellars. Peter Standage.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for spinning wool, hemp, flax, silk, hair, or cotton, or any other material.	2044	21st March 1795	John Paseman.
Method of spinning cotton, silk, and wool, and for making the parts of the machinery used for this purpose.	2100	17th March 1796	Richard Varley.
Machine for spinning cotton - - - -	2166	7th Feb. 1797	Aaron Garlick.
Machinery for spinning all kinds of wool, hemp, flax, silk, mohair or other materials which may be spun.	2177	25th March 1797	John Passman.
Machine, engine, or apparatus for spinning of cotton, flax, hemp, worsted, yarn, wool, &c., and for doubling and twisting silk, cotton, and thread, and which is capable of being applied to various other useful purposes.	2192	13th Sept. 1797	Samuel Stansfield.
Making and working machines for spinning wool, cotton, flax, hemp, and various other materials, without any drums or belts in the inside of such machines, and which machines may be worked or used by water, steam, or horse mills, or by any other moving power.	2228	18th April 1798	William Sellars.
Method of spinning flax, hemp and tow, by means of machinery wrought by water, and which may be wrought by steam-engines, horses, or any other power, the spinning being done at much less expense and much more expeditiously than it can be done in any other way hitherto practised.	2258	7th Aug. 1798	John Cochran.
Woollen yarn, worsted, silk and other kind of spun materials, for the purpose of manufacture.	2422	2nd July 1800	George Holland.
Machinery for spinning rope-yarn or sailcloth-yarn.	2553	10th Nov. 1801	Archibald Thompson.
Machinery for spinning cotton, flax, tow, and wool, or for any other purpose requiring circular power.	2632	28th June 1802	Matthew Murray.
Machines for spinning cotton - - - -	2711	14th June 1803	John Wood.
Machines for spinning cotton, silk, and wool - -	2747	10th Jan. 1804	John Wood.
Machinery for the spinning of cotton-wool, silk, hemp, and flax.	2770	2nd June 1804	John Heppenstall.
Mode or art of manufacturing and spinning yarn, different from any such now in use.	2784	21st Sept. 1804	Joseph Huddart.
Machinery for throwing and spinning silk-thread, cotton-thread, flax-thread, hemp-thread, and all such other articles as usually are or may be thrown.	2809	19th Dec. 1804	Thomas Margrave.
Machinery for spinning cotton-wool, silk, hemp, and flax.	2896	19th Nov. 1805	Archibald Earl of Dundonald.
Machine for spinning hemp, flax, tow, and wool - - - - -	2944	19th June 1806	{ William Clark. Joseph Bugby.
Constructing and uniting cotton-spinning mule-jennies and stretching-frames, so that a greater number of them, containing any number of spindles, can be wrought at the same time by the same power and person.	2984	30th Oct. 1806	Matthew Robertson.
Certain improvements (by the application of known principles) upon certain parts of mill-spinning, for spinning wool or cotton.	3014	20th Feb. 1807	Archibald Thomson.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Certain improvements (by the application of known principles) upon certain parts of mill-spinning, for spinning wool or cotton.	3024	2nd April 1807	Archibald Thomson.
Machinery for spinning wool, cotton, hemp, and other filamentous substances.	3027	8th April 1807	Samuel Williams.
Method of spinning East India sun-hemp - - -	3031	11th April 1807	Thomas Paty.
Method of spinning cotton, flax, and wool - . -	3094	24th Dec. 1807	John Leigh Bradbury.
Method or methods of flax-spinning, and of preparing or making a special twist, thread, furniture, cloth, frills or attire ("Telary teguments"), from silk, wool, cotton, flax, hemp, or tow, or other articles, combined or uncombined; and of refabricating or renovating fabrics, and producing or reproducing a new body from tatters in general.	3166	25th Aug. 1808	John Dumbell.
Machine for spinning cotton, flax, hemp, tow, worsted, wool, silk, or any other substance, into threads, preparatory to their being manufactured or otherwise used - - - - -	3179	8th Nov. 1808	{ John Hartley. John Musgrave. William Farnery.
Machines applicable to various kinds of spinning -	3202	7th Feb. 1809	Archibald Thomson.
Modes of spinning hemp, flax, hurds, short tow, clearings and other inferior parts of hemp and flax, alone or mixed with cotton-wool - - -	3255	8th Aug. 1809	{ Thomas Dickin. Henry Bradley.
Machinery for spinning cotton, silk, flax, wool, mohair, and other materials used for the manufacture of twist, thread, or other kind of yarn.	3360	7th July 1810	Richard Varley.
Machines for spinning cotton, flax, tow, hemp, wool, and silk, and twisting of thread.	3445	7th May 1811	Thomas Cranfield.
Machinery for spinning cotton, silk, flax, and wool.	3633	1st Jan. 1813	Joseph Raynor.
Method of spinning hemp, flax, grasses, or any substance having considerable length of fibre.	3743	1st Nov. 1813	Joseph Chessborough Dyer.
Mode of spinning or making a species of wool into yarn, either by itself or with any other material; which yarn may be beneficially used in various branches of manufacture.	3767	14th Dec. 1813	John Swarbreck Rogers.
Method of spinning mohair, wool, cotton, and silk, by machinery.	3812	7th June 1814	William Sellars.
Method of twisting and laying cotton, silk, and various other articles.	3816	7th June 1814	John Buxton.
Spindle for making silk thread - - - - -	3834	4th Aug. 1814	George Courtauld.
Method of spinning hemp, flax, and other substances containing fibre.	3855	17th Nov. 1814	Horace Hall.
Preparing and spinning cotton-wool and various other articles.	3879	4th Feb. 1815	John Wood.
Twisting and laying hemp, flax, thread, mohair, wool, cotton, and silk.	3903	4th April 1815	William Vaughan Palmer.
Machines applicable to every description of spinning - - - - -	3997	2nd March 1816	{ John Wood. John Wordsworth.
Machinery for spinning cotton, flax, wool, tow, worsted, or any other fibrous substances.	3990	9th March 1816	John Leigh Bradbury.
Making rollers used in spinning wool, cotton, silk, flax, tow, or any other fibrous substances.	4052	3rd Aug. 1816	John Welch.
Machinery for the spinning of wool, cotton, and other fibrous substances.	4138	10th July 1817	William Henry Simpson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Method of improving thread or yarn as usually manufactured, of every description, whether fabricated from flax, cotton-wool, silk, or any other vegetable, animal, or other substance whatever.	4177	3rd Nov. 1817	Samuel Hall.
Machinery for grinding, glazing, and dressing small cotton and woollen spindles for fine spinning.	4243	8th April 1818	George Whitham.
Bobbin used in spinning and other manufactures -	4269	28th May 1818	Thomas Homfray.
Machinery employed in the spinning of cotton and wool.	4272	18th June 1818	William Eaton.
Spinning wool - - - - -	4307	12th Nov. 1818	James Hadden.
Method of spinning wool, cotton, silk, flax, fur, and all other fibrous substances.	4430	15th Jan. 1820	Joseph Main.
Machinery adapted to spinning wool, cotton, and other fibrous substances; also certain combinations of the said machinery with other machines already known and in use [ <i>construction of an engine called an "eagle," and combining the same with other spinning-machinery</i> ].	4485	11th July 1820	James White.
Machinery for spinning into thread or yarn, flax, hemp, and other substances.	4545	27th March 1821	Ilario Pellafinet.
Machinery for and method of spinning wool, silk, mohair and other animal fibre, of any quality or length of staple.	4748	16th June 1823	William Lister.
Machinery for spinning hemp, flax, and waste silk -	4756	18th Feb. 1823	Philip Chell.
Throwing, twisting, or spinning sewing-silks, organzine, bergam, and such other descriptions of silk as such improvements may be applicable to.	4762	18th March 1823	Richard Badnell.
Improving thread or yarn as usually manufactured, of any kind, and whether fabricated from flax, cotton, silk, worsted, or any other substance or mixture of substances whatsoever.	4770	18th April 1823	Samuel Hall.
Machinery or apparatus to facilitate or improve the operation of spinning and throwing silk, cotton-wool, or flax, or mixture of the said substances.	4788	29th April 1823	Joseph Taylor.
Machines for spinning and twisting cotton, flax, silk, wool, or other fibrous substances.	4807	26th June 1823	John Green.
Machinery for spinning wool, cotton, silk, flax, and other fibrous substances.	4833	18th Aug. 1823	Thomas Leach.
Machinery for twisting cotton, silk, and other fibrous substances.	4859	6th Nov. 1823	Thomas Foster Gimson.
Machinery used in spinning cotton-wool or silk -	4926	20th March 1824	John Heathcoat.
Mode of twisting, spinning, or throwing silk, cotton-wool, linen, or other threads or fibrous substances.	4984	3rd July 1824	John Leigh Bradbury.
Construction of spinning-machines - - -	4995	5th Aug. 1824	John Price.
Machinery for spinning flax, wool, waste silk, or other fibrous substances.	5015	14th Oct. 1824	Philip Chell.
Machinery for spinning of cotton and wool - -	5016	14th Oct. 1824	John George Bodmer.
Spinning and slubbing machines - - - -	5070	11th Jan. 1825	William Hirst.
Construction of a machine used for throstle and water spinning of thread or yarn, whether the said thread or yarn be fabricated from cotton, flax, silk, wool, or any other fibrous substances or mixture of substances whatsoever, which said improved machine is so constructed as to perform the operations of sizing and twisting in or otherwise removing the superfluous fibres from the said thread or yarn, and is also applicable to the preparing a roving for the same - -	5076	11th Jan. 1825	{ Jonathan Andrew. Gilbert Tarlton. Joseph Shepley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Spinning, throwing, and twisting silk, wool, cotton, flax, hemp, and such like materials - - - - }	5081	13th Jan. 1825	{ William Booth. Michael Bailey.
Spinning, throwing, or twisting of silk, wool, cotton, or any other fibrous substance.	5092	10th Feb. 1825	Richard Badnall.
Machines used in spinning cotton-wool or other fibrous substances, and in which either the spindles recede from and approach the rollers or other deliverers of the said fibrous substances, or in which such rollers or deliverers recede from and approach the spindles.	5138	29th March 1825	Richard Roberts.
Spinning-machines, as mules, jennies, or other similar machines.	5140	29th March 1825	Maurice De Jough.
Machinery for spinning cotton-wool and other fibrous substances.	5196	21st June 1825	John Frederick Smith.
Manufacturing of thrown silk - - - - -	5200	6th July 1825	John Heathcoat.
Apparatus for giving a new motion to mules and billies - - - - -	5218	16th July 1825	{ William Hirst. Joseph Carter.
Machinery for spinning flax, hemp, and other fibrous substances, by power.	5228	26th July 1825	James Kay.
Manufacture of silk [ <i>placing metallic rims on bobbins, for silk-throwing</i> ].	5230	30th July 1825	Richard Badnall.
Apparatus for spinning, twisting, or throwing silk -	5238	12th Aug. 1825	Henry Richardson Fanshaw.
Machinery for spinning silk - - - - -	5276	1st Nov. 1825	Vernon Royle.
Machinery for spinning flax, hemp, and waste silk -	5294	17th Nov. 1825	{ Alexander Lamb. William Suttill.
Machinery for giving the taking-up or winding-on motion to spools or bobbins and other instruments on which the thread is wound in spinning and twisting machines.	5316	16th Jan. 1826	Henry Houldsworth.
Spinning wool, cotton, and other fibrous substances	5320	19th Jan. 1826	John Frederick Smith.
Machines used for spinning wool, cotton, waste silk, short-stapled hemp and flax, or any other fibrous materials or mixture thereof.	5355	2nd May 1826	John Goulding.
Machinery for spinning and twisting silk and wool, and for roving, spinning, and twisting flax, hemp, cotton, and other fibrous substances.	5365	23rd May 1826	Francis Molineux.
Machinery used for the operation of spinning of sheep's and lambs' wool.	5389	14th July 1826	Edward Bayliffe.
Machinery or apparatus for spinning and twisting fibrous substances.	5432	18th Dec. 1826	Maurice De Jough.
Machinery for spinning cotton - - - - -	5464	20th Feb. 1827	Philip Jacob Heisch.
Machinery for spinning wool and cotton - - -	5486	24th April 1827	James Whitaker.
Machinery for spinning wool, cotton, and other fibrous substances.	5509	16th June 1827	Lambert Dexter.
Apparatus for spinning fibrous substances - - -	5524	13th July 1827	William Church.
Machines for spinning cotton and other fibrous substances.	5576	4th Dec. 1827	Maurice De Jough.
Thread to be used in the manufacture of the article commonly called bobbin-net lace.	5633	29th March 1828	Thomas Lawes.
Machinery for spinning wool, cotton, short-stapled flax and silk, either separately or combined; and for spinning or twisting long-stapled flax, hemp, silk, mohair or other fibrous substances, either separately or combined.	5654	13th May 1828	John Ford.
Machinery for spinning or roving of cloth, silk, wool, or other fibrous substances.	5689	19th Aug. 1828	William Sharpe.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for spinning and twisting worsted yarn and other fibrous substances.	5705	18th Sept. 1828	Joseph Rhodes.
Machinery for spinning cotton and other fibrous substances.	5787	2nd May 1829	George William Lee.
Machinery for spinning cotton and other fibrous substances.	5800	4th June 1829	Charles Brook.
Machinery for spinning cotton, silk, linen, woollen, and other fibrous substances.	5822	30th July 1829	John Hutchison.
Mechanism employed to render self-acting the machines known by the names of mule, billey or jenny, and other machines of that class, for spinning cotton or other fibrous substances.	5949	1st July 1830	Richard Roberts.
Machinery for spinning and twisting silk and wool, and spinning and twisting cotton, flax, hemp, and other fibrous substances - - - - -	6001	21st Sept. 1830	{ Francis Molyneux. William Bundy.
Spinning cashmere-wool - - - - -	6037	13th Nov. 1830	Charles Stuart Cochrane.
Spinning-machines - - - - -	6039	20th Nov. 1830	Thomas Sands.
Machinery for spinning and twisting silk and other fibrous substances.	6049	13th Dec. 1830	William Needham.
Machinery for spinning cotton, silk, flax, wool, and other fibrous substances of the like nature, as well as for throwing, doubling, and twisting threads and yarns made of the same materials.	6093	11th March 1831	Charles Wood.
Machinery or apparatus applicable to the spinning or twisting of cotton, flax, silk, wool, and other fibrous materials - - - - -	6098	21st March 1831	{ John Potter. James Potter.
Machinery by aid of which spinning-machines commonly called mules are or may be rendered what is termed self-acting, that is, worked by power, without requiring the usual application of the strength of the spinners to give motion to handles or wheels and to such other parts of mules as are commonly worked by the strength of spinners.	6115	23rd May 1831	Thomas Knowles.
Throstle spindles for spinning and twisting silk, cotton-wool, flax, and other fibrous substances.	6122	2nd June 1831	Samuel Lambert.
Machinery for spinning flax, hemp, and other fibrous substances, dressed or undressed.	6168	24th Sept. 1831	James Lang.
Machinery or apparatus for twisting or spinning cotton, silk, wool, hemp, flax, or other fibrous substances.	6185	27th Oct. 1831	Joshua Bates.
Machines called "throstle-frames" and spinning-frames, which machines operate by spindles and flyers and bobbin, for spinning yarn or threads.	6201	22nd Dec. 1831	Henry Gore.
Making ornamental or fancy cotton yarns and threads, applicable to the making, sewing, or embroidering of cotton and other fabrics [by mixing different colours and proportions of dyed cotton, and then spinning such mixtures, thus producing threads of a great variety of tints or shades].	6202	22nd Dec. 1831	Pierrepont Greaven.
Spinning-machines - - - - -	6216	28th Jan. 1832	John Jellicorse.
Method of spinning flax and hemp by means of machinery.	6255	13th April 1832	Alexander Beattie Shankland.
Construction of a machine for a new mode of spinning cotton, silk, flax, and other fibrous substances.	6261	26th April 1832	Robert Montgomery.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machines called throstles and doubling-frames, for spinning and twisting yarns made from cotton, silk, linen, woollen, and other fibrous substances.	6264	1st May 1832	Charles Axon.
Spinning wool - - - - -	6282	5th July 1832	Alexander Beattie Shankland.
Machinery for spinning flax, hemp, wool, and other fibrous materials.	6287	26th July 1832	Joshua Wordsworth.
Machinery for spinning cotton, silk, flax, and other fibrous substances,—commonly called “throstles” }	6305	8th Sept. 1832	{ John Brown. Thomas Heya.
Spinning cotton, silk, flax, and other fibrous substances.	6427	25th May 1833	James Jones.
Certain improvements in the mule jenny or other machine for spinning of cotton; and machinery for spinning silk, wool, flax, hemp, or other fibrous substances.	6475	21st Sept. 1833	John Robertson.
Machinery or apparatus for spinning wool, cloth, hemp, flax, or other fibrous materials.	6499	1st Nov. 1833	Jacob Travis.
Spinning machines or mules - - - - -	6505	9th Nov. 1833	Peter Ewart.
Improvements in or additions to apparatus or methods employed in throwing or winding silk or other threads.	6511	19th Nov. 1833	Marcel Roman.
Machinery for spinning cotton and other fibrous materials - - - - -	6552	6th Feb. 1834	{ Benjamin Dobson. John Sulcliff. Richard Threlfall.
Machinery for spinning cotton, flax, wool, and other fibrous substances.	6580	20th Feb. 1834	James Smith.
Method of spinning, twisting and twining cotton, flax, silk, wool, or any other suitable substances.	6645	17th July 1834	Peter Wright.
Machinery for spinning cotton, silk, flax, and other fibrous materials - - - - -	6690	8th Oct. 1834	{ Thomas Sharp. Richard Roberts.
Machinery for spinning cotton and other fibrous materials.	6698	20th Oct. 1834	Malcolm M'Gregor.
Spinning of cotton, silk, flax, and other fibrous substances.	6699	20th Oct. 1834	James Jones.
Machinery for spinning or twisting cotton, flax, silk, and other fibrous substances.	6714	15th Nov. 1834	Charles De Bergue.
Machinery for spinning cotton, flax, wool, silk, and other fibrous substances.	6818	14th April 1835	Joseph Whitworth.
Machinery for spinning cotton and wool - - -	6841	27th May 1835	John George Bodmer.
Throstle-flyer, or a substitute for an ordinary flyer employed in spinning cotton, flax, hemp, wool, silk, and other fibrous substances.	6856	3rd July 1835	James Kean.
Spinning organzine silk - - - - -	6882	17th Aug. 1835	Richard Sheppard.
Machinery for spinning flax, hemp, cotton, silk, } and other fibrous substances, by power - - }	6954	16th Dec. 1835	{ Daniel Dewhurst. Thomas Hope. Joseph Hope. Isaac Hope.
Machinery for spinning cotton and other fibrous substances.	6974	6th Jan. 1836	James Champion.
Machinery for spinning cotton and other fibrous substances.	6975	6th Jan. 1836	John Ramsbottom.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for spinning cotton, silk, wool, and other fibrous materials	6996	5th Feb. 1836	{ Edmund Ashworth. James Greenough.
Machinery for spinning yarn or thread manufactured from cotton or other fibrous material.	7048	29th March 1836	Charles De Bergue.
Conveyance of cotton and other fibrous substances to mules, throstles, or any other spinning-machinery.	7073	26th April 1836	Thomas Aitken.
Machinery for spinning and twisting cotton and other fibrous substances.	7075	30th April 1836	John Burns Smith.
Machinery for spinning cotton-wool and other fibrous substances.	7095	17th May 1836	Joseph Whitworth.
Machinery for spinning or twisting of cotton, flax, silk, wool, hemp, and other fibrous substances.	7127	22nd June 1836	William Wright.
Machinery for spinning cotton and other fibrous substances.	7220	10th Nov. 1836	Joel Livsey.
Machinery for spinning cotton-wool and other fibrous substances.	7226	19th Nov. 1836	Joseph Whitworth.
Manufacture of silk, and silk in combination with certain other fibrous substances [ <i>spinning silk-waste, or silk-waste combined with flax or wool</i> ]	7228	19th Nov. 1836	{ John Gordon Campbell. John Gibson.
Spinning-machinery - - - - -	7263	21st Dec. 1836	James Potter.
Spinning wool - - - - -	7290	26th Jan. 1837	Joshua Cuttell.
Machinery used for spinning cotton and other fibrous substances.	7319	8th March 1837	John Consitt.
Spinning, twisting, doubling, or otherwise preparing, cotton, silk, and other fibrous substances.	7341	15th April 1837	Horatio Nelson Aldrich.
Machinery for spinning cotton-wool, silk, flax, and other fibrous materials.	7388	12th June 1837	John George Bodmer.
Construction and arrangement of spinning-machinery.	7393	17th June 1837	William Nicholson.
Spinning hemp, flax, and other fibrous materials -	7461	4th Nov. 1837	William Arthur.
Spinning silk, waste wool, flax, and other fibrous substances; discharging the gum from silks, raw and manufactured.	7600	26th March 1838	Michael Wheelwright Ivison.
Machine called the "silk-worm," for the purpose of spinning silk.	7663	31st May 1838	William Needham.
Machinery or apparatus for spinning cotton, silk, flax, wool, and other fibrous substances.	7668	2nd June 1838	Francis Sleddon.
Machinery for spinning wool, cotton, silk, and other fibrous materials.	7694	19th June 1838	William Garnett.
Machinery or apparatus for spinning cotton, flax, wool, silk, or other fibrous substances.	7700	22nd June 1838	Peter Fairbairn.
Improvement partly applicable for spinning cotton-wool, flax, or other fibrous materials.	7735	12th July 1838	Joseph Bennett.
Machinery for spinning and twisting cotton, flax, silk, wool, and other fibrous materials - - -	7755	31st July 1838	{ Joseph Rayner. Whitehead Rayner. Henry Samuel Rayner.
Machinery for spinning cotton and other fibrous materials.	7746	26th July 1838	William Madeley.
Machinery or apparatus for spinning cotton, flax, wool, silk, and other fibrous substances.	7837	22nd Oct. 1838	John George Bodmer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Manufacture of thread or yarn by the application of certain fibrous substances not hitherto so employed [ <i>the fibres of the banana, aloe, fig-tree, palm-tree, and plantain</i> ].	7883	1st Dec. 1838	John Small.
Machinery for spinning cotton, silk, wool, hemp, flax, and other fibrous materials.	7910	17th Dec. 1838	James Loes.
Application of an improved covering for the rollers used in spinning, &c., wool, cotton-wool, flax, silk, mohair, or other fibrous material or substances.	7914	19th Dec. 1838	John Radcliffe.
Machinery for spinning and twisting cotton and other fibrous materials.	7929	11th Jan. 1839	John Howarth.
Machinery for spinning and throwing silk and other fibrous materials.	7978	23rd Feb. 1839	William Nash.
Certain improvements in the mule, jenny or other machine for spinning of cotton, and machinery for spinning silk, wool, flax, hemp, or other fibrous substances [ <i>extension for seven years of patent No. 5138, from the 29th March 1839</i> ].	8012	26th March 1839	Richard Roberts.
Spinning-frame used for spinning flax, hemp, and tow, upon the wet principle - - - - }	8052	30th April 1839	{ John Boyd. Francis Rennie.
Machinery for spinning and twisting wool and other similar fibrous substances.	8054	30th April 1839	James Smith.
Machinery for spinning flax, hemp, and other fibrous substances, by power.	8168	24th July 1839	James Kay.
Making thread and linen from a material not hitherto used for that purpose [ <i>from fibres of the hop-bine or from potato stalks</i> ].	8190	10th Aug. 1839	John Fitzpatrick.
Spinning - - - - -	8213	9th Sept. 1839	Paul Robin.
Machinery for spinning and twisting cotton and other fibrous substances.	8272	16th Nov. 1839	John Burns Smith.
Discovery by which certain textile or fibrous plants are rendered applicable for spinning into yarns, in place of flax, hemp, cotton, and other fibrous materials commonly used for such purpose.	8273	19th Nov. 1839	Miles Berry.
Machinery or apparatus for spinning or twisting cotton, flax, wool, silk, or other fibrous materials, parts of which improvements are applicable to machinery in general.	8290	2nd Dec. 1839	Godfrey Anthony Ermen.
Spinning certain fibrous substances - - - -	8328	21st Dec. 1839	Joseph Gibbs.
Machinery for spinning and twisting flax, wool, silk, cotton, and other fibrous substances - - }	8332	2nd Jan. 1840	{ Samuel Lawson. John Lawson.
Spinning-machinery applicable to mules, jennies, slubbers, and other similar mechanism.	8341	11th Jan. 1840	Robert Montgomery.
Machinery for spinning cotton, flax, wool, and other fibrous substances - - - - }	8411	3rd March 1840	{ William Craig. William Douglas Sharp.
Machinery or apparatus for spinning cotton-wool, flax, silk, and other fibrous substances - - }	8428	13th March 1840	{ Richard Smith. Richard Hacking.
Machinery for spinning cotton and other fibrous substances - - - - - }	8433	16th March 1840	{ Richard Smith. Richard Hacking.
Spinning wool, cotton, silk, and other fibrous materials.	8480	31st March 1840	John Lebrecht Steinhäuser.
Machinery for and mode of twisting and spinning hemp, flax, and other fibrous substances.	8514	22nd May 1840	James Buchanan.
Machinery for spinning cotton-wool, silk, flax, and other fibrous materials.	8556	26th June 1840	Thomas Spencer.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for spinning cotton and wool [ <i>an extension for seven years of patent No. 5016, from the 14th October 1838</i> ].	8579	29th July 1840	John George Bodmer.
Machinery for spinning wools and hairs; "File-finisher."	8786	14th Jan. 1841	Pierre Armand le Comte de Fontaineimoreau.
Spinning cotton, silk, wool, and other fibrous substances.	8796	19th Jan. 1841	James Smith.
Machinery or apparatus for spinning cotton and other fibrous substances.	8827	2nd Feb. 1841	Francis Sleddon, junior.
Apparatus for forging, drawing, moulding, or forming spindles, rollers, and various other like articles in metal.	8835	8th Feb. 1841	William Ryder.
Machinery for twisting woollens and other fabrics -	8860	2nd March 1841	George England.
Spinning and twisting cotton and other materials -	8882	16th March 1841	William Newton.
Machinery or apparatus for spinning cotton, silk, wool, and other fibrous materials.	8908	30th March 1841	Thomas Gore.
Machinery for spinning flax, silk, and other fibrous substances.	8910	31st March 1841	William Jenkinson.
Machinery for spinning cotton, silk, wool, flax, and other fibrous substances.	8988	12th June 1841	Ezekiel Jones.
Machinery for spinning hemp, flax, wool, and other fibrous materials - - - -	9044	11th Aug. 1841	{ William Craig. Robert Jarvie. James Jarvie.
Machinery employed in the manufacture of yarns; improvements applicable to the same - -	9078	8th Sept. 1841	{ Joseph Garnett. John Mason.
Spindles, flyers, and bobbins for spinning and twisting fibrous or textile substances, and their application to machinery for the same purpose.	9211	6th Jan. 1842	Montague Macdonogh.
Machinery for spinning worsted and woollen yarn -	9253	10th Feb. 1842	William Brook Addison.
Machinery for spinning flax, hemp, and tow - -	9254	14th Feb. 1842	{ George Jarman. Robert Cook. Joshua Wordsworth.
Machinery or apparatus for spinning cotton and other fibrous substances. -	9279	7th March 1842	John George Bodmer.
Spinning cotton-wool, flax, hemp, and other fibrous substances - - - -	9313	6th April 1842	{ James Smith. James Buchanan.
Machinery or apparatus for spinning cotton-wool, silk, and other fibrous substances.	9328	26th April 1842	Otto Rotton.
Machinery for spinning cotton, flax, and other fibrous substances.	9366	25th May 1842	James Potter.
Machinery for spinning cotton, flax, and other fibrous substances.	9494	20th Oct. 1842	Thomas Seville.
Machinery for spinning cotton-wool, flax, silk, and similar fibrous material.	9536	3rd Dec. 1842	Thomas Howard.
Machines called mules, and other machines, for spinning cotton-wool, and other fibrous substances.	9552	8th Dec. 1842	Benjamin Fothergill.
Machinery or apparatus for spinning cotton and other fibrous substances.	9683	30th March 1843	James Fletcher.
Machinery for spinning hemp and such other fibrous materials.	9725	15th May 1843	John Tappan.
Machinery for spinning wool, cotton, flax, silk, or any other fibrous bodies.	9754	1st June 1843	Martyn John Roberts.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for spinning cotton and other fibrous substances.	9760	8th June 1843	John Burns Smith.
Machinery for spinning cotton and other fibrous substances.	9844	15th July 1843	William Garnett Taylor.
Machinery for spinning and twisting cotton and other fibrous substances.	9305	12th Oct. 1843	Charles Brook.
Spinning cotton and other fibrous materials - -	9941	16th Nov. 1843	Edward Buxton.
Machinery for spinning cotton-wool, flax, silk, and similar fibrous materials.	9378	8th Dec. 1843	Joseph Lamb.
Spinning cotton and other fibrous substances -	10,001	28th Dec. 1843	{ James Champion. Thomas Marsden.
Spinning and twisting cotton and other fibrous substances.	10,080	24th Feb. 1844	James Smith.
Machinery or apparatus for spinning cotton-wool, and other fibrous substances - - - - - }	10,108	14th March 1844	{ John Tatham. David Cheetham.
Machinery or apparatus for spinning cotton, silk, wool, and other fibrous substances.	10,150	18th April 1844	Richard Roberts.
Machinery for spinning cotton-wool, and other fibrous substances.	10,202	23rd May 1844	William Archibald Cooper.
Spinning cotton-wool, and other fibrous substances	10,228	18th June 1844	Alexander Simon Wolcott.
Machinery or apparatus for spinning cotton and other fibrous substances.	10,260	15th July 1844	James Harrison.
Machinery or apparatus for spinning cotton and other fibrous substances.	10,354	17th Oct. 1844	Jean Baptiste Paul Chappé.
Flax-spinning, and flax-spinning machinery;— applicable to the manufacture of other fibrous substances - - - - - }	10,454	6th Jan. 1845	{ Thomas Russell. John Peter, junior.
Machinery for twisting and spinning cotton, flax, silk, wool, and other fibrous substances.	10,480	18th Jan. 1845	Edward Brown Wilson.
Machinery for spinning wool, flax, and other fibrous bodies.	10,498	28th Jan. 1845	Martyn John Roberts.
Machinery for spinning hemp, flax, tow, silk, wool, and other fibrous substances.	10,518	10th Feb. 1845	Peter Fairbairn.
Machinery for spinning cotton-wool, flax, silk, and similar fibrous material.	10,537	3rd March 1845	Thomas Schofield Whitworth.
Spinning cotton-wool, and other fibrous substances	10,575	27th March 1845	Charles Pooley.
Machinery for spinning cotton-wool, flax, silk, and similar fibrous material - - - - - }	10,584	2nd April 1845	{ James Higgins. Thomas Schofield Whitworth.
Spinning-throstles - - - - -	10,644	29th April 1845	John Herbert Blakey.
Machinery for spinning cotton, silk, warp and weft, and to be used for all manufacturing purposes to which the same is applicable.	10,720	12th June 1845	Thomas Willis.
Machinery for spinning cotton-wool and other fibrous substances.	10,722	17th June 1845	Benjamin Fothergill.
Machinery for spinning flax, hemp, and other fibrous materials.	10,723	17th June 1845	Auguste Chérot.
Spinning and twisting cotton, flax, silk, and other fibrous materials.	10,780	21st July 1845	Michael Perrier.
Spinning hemp, flax, and other fibrous materials -	10,787	29th July 1845	Alexander Wilson.
Machinery for spinning - - - - -	10,802	5th Aug. 1845	{ William Eccles. Henry Brierley.
Machinery or apparatus for spinning - - - - -	10,821	28th Aug. 1845	William Edward Newton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for spinning flax and other fibrous substances - - - - -	10,833	18th Sept. 1845	{ Charles Murland. Edward Lawson.
Covering rollers used in spinning cotton and other threads - - - - -	10,865	9th Oct. 1845	{ Joseph Edward Judson. Edward Banton.
Machinery or apparatus for spinning cotton and other fibrous substances - - - - -	10,892	10th Dec. 1845	{ George Leach Ashworth. Wilson Crossley.
Spinning wool - - - - -	11,004	12th Dec. 1845	Samuel Cunliffe Lister.
Machinery or apparatus for spinning cotton-wool, silk, flax, and other fibrous substances.	11,012	22nd Dec. 1845	William M'Lardy.
Machinery for spinning and twisting cotton, silk, wool, flax, and other fibrous substances.	11,105	25th Feb. 1846	William Robertson.
Machinery or apparatus for spinning cotton and other fibrous substances.	11,110	25th Feb. 1846	John Platt.
Machinery or apparatus for spinning cotton and other fibrous substances.	11,192	5th May 1846	William Longshaw.
Machinery for spinning cotton-wool and other fibrous substances - - - - -	11,243	16th June 1846	{ Benjamin Fothergill. Richard Johnson.
Machinery for spinning flax and other fibrous materials.	11,247	20th June 1846	John Simson.
Machinery or apparatus for spinning cotton and other fibrous substances - - - - -	11,271	29th June 1846	{ John Tatham. David Cheetham. John Wallace Duncan.
Machinery or apparatus for spinning cotton and other fibrous substances.	11,321	1st Aug. 1846	John Bayley.
Spinning silk, cotton-wool, and other fibrous substances.	11,367	3rd Sept. 1846	George Senior.
Machinery for spinning flax, hemp, silk, and other fibrous substances - - - - -	11,393	2nd Oct. 1846	{ Peter Fairbairn. Peter Carmichael.
Machinery or apparatus for spinning cotton and other fibrous substances.	11,423	22nd Oct. 1846	William Anderson.
Machinery or apparatus employed in the manufacture of rollers used in machinery for preparing and spinning cotton and other fibrous substances - - - - -	11,489	14th Dec. 1846	{ Henry Bleasdale. William Ryder.
Machinery or apparatus for spinning cotton and other fibrous substances.	11,531	14th Jan. 1847	John Fray Poole.
Yarns, and machinery by which the same are manufactured [ <i>compound yarns</i> ].	11,547	28th Jan. 1847	John Law.
Machinery for twisting cotton or other fibrous substances.	11,574	9th Feb. 1847	William Eaton.
Improvements in the preparation of gutta-percha, and in the application thereof, alone and in combination with other materials, to manufacturing purposes; which improvements are also applicable to other substances [ <i>covers for cotton-spinning rollers</i> ].	11,575	10th Feb. 1847	Charles Hancock.
Spinning flax and other fibres - - - - -	11,579	15th Feb. 1847	Solomon Leatham.
Machinery for spinning - - - - -	11,602	2nd March 1847	{ William Eccles. Henry Brierley.
Machinery for spinning fibrous substances - - -	11,603	2nd March 1847	John Wood.
Machinery for spinning flax, hemp, and other fibrous substances.	11,676	27th April 1847	John Morgan.
Machinery for spinning cotton-wool and other fibrous substances - - - - -	11,683	4th May 1847	{ John Elce. Richard Bleasdale.
Spinning wool and flax - - - - -	11,743	12th June 1847	George Edmund Donisthorpe.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for spinning cotton and other fibrous substances.	11,747	15th June 1847	Richard Roberts.
Machinery or apparatus for spinning cotton-wool, and other fibrous substances.	11,753	15th June 1847	James Houghton.
Machines for spinning cotton-wool and other fibrous substances.	11,755	19th June 1847	James Hill.
Machinery or apparatus for spinning cotton and other fibrous materials - - - - - }	11,814	24th July 1847	{ John Platt. Thomas Palmer.
Spinning cotton and other fibrous substances - - -	11,873	23rd Sept. 1847	Henry Newton.
Machinery for spinning and winding yarn - - -	11,888	7th Oct. 1847	George H. Dodge.
Spinning wool and other fibrous substances - - -	11,896	7th Oct. 1847	{ Samuel Cunliffe Lister. Isaac Holden.
Machines for spinning cotton and other fibrous substances - - - - - }	11,902	14th Oct. 1847	{ Matthew Curtis. Robert Lakin.
Construction of machinery for spinning alpaca, mohair, wool, flax, and other fibrous materials.	11,952	9th Nov. 1847	Edward Waud.
Machinery for twisting cotton or other fibrous substances.	11,984	1st Dec. 1847	William Eaton.
Machinery or apparatus for twisting cotton or other fibrous substances.	12,052	8th Feb. 1848	Godfrey Anthony Ermen.
Machinery for spinning cotton-wool, alpaca, mohair, flax, silk, and other fibrous materials.	12,118	10th April 1848	James Derham.
Machinery or apparatus for spinning of cotton-wool, silk, flax, and other fibrous substances - - }	12,150	9th May 1848	{ William M'Lardy. Joseph Lewis.
Machinery or apparatus for spinning cotton and other fibrous substances - - - - - }	12,232	8th Aug. 1848	{ John Metcalfe. Robert Halliwell.
Machinery for spinning flax, hemp, tow, silk, and other fibrous substances.	12,299	26th Oct. 1848	Peter Fairbairn.
Machinery for spinning cotton and other fibrous substances.	12,315	2nd Nov. 1848	William Weild.
Machinery or apparatus for spinning cotton and other fibrous substances.	12,337	11th Dec. 1848	Edmund Hartley.
Spinning silk and other fibrous substances - - -	12,419	16th Jan. 1849	Anthony Barberis.
Machinery for spinning flax, hemp, tow, wool, silk, and other fibrous substances.	12,434	23rd Jan. 1849	Thomas Robinson.
Machinery for spinning cotton-wool, flax, silk, and similar fibrous materials - - - - - }	12,441	25th Jan. 1849	{ Robert Shaw. Samuel Fletcher Cottam.
Spinning cotton and other fibrous substances - - -	12,445	27th Jan. 1849	James Green Gibson.
Machinery or apparatus for spinning cotton and other fibrous materials - - - - - }	12,535	26th March 1849	{ John Mason. George Collier.
Machinery for spinning cotton, silk, and other fibrous substances.	12,605	8th May 1849	Robert Sutcliffe.
Machinery for spinning cotton yarns and other fibrous materials.	12,608	10th May 1849	George Henry Dodge.
Machinery for spinning cotton and wool [being an extension for five years of J. G. Bodmer's patent, No. 6811, from the 27th May 1849].	12,641	5th June 1849	Thomas Hornby Birley.
Spinning wool - - - - -	12,712	18th July 1849	{ Samuel Cunliffe Lister. George Edmund Donisthorpe.
Machinery for spinning - - - - -	12,771	13th Sept. 1849	James Potter.
Machinery for spinning cotton-wool, flax, silk, and similar fibrous materials - - - - - }	12,785	24th Sept. 1849	{ James Higgins. Thomas Schofield Whitworth.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Spinning fibrous substances - - - - -	12,801	12th Oct. 1849	Peter Armand le Comte de Fontainemorcau.
Machinery for spinning cotton and other fibrous substances - - - - -	12,805	12th Oct. 1849	{ Robert Lakin. William Henry Rhodes.
Machinery for spinning or twisting cotton, wool, or other fibrous substances.	12,816	18th Oct. 1849	Charles Felton Kirkman.
Machinery or apparatus for spinning cotton-wool, silk, flax, and other fibrous substances.	12,822	2nd Nov. 1849	George Park Macindoe.
Machinery for spinning cotton and other fibrous substances.	12,823	2nd Nov. 1849	Adam Cottam.
Machinery for producing flax yarns - - - - -	12,832	2nd Nov. 1849	James Combe.
Machinery for spinning cotton, flax, and other fibrous substances - - - - -	12,870	30th Nov. 1849	{ Peter Fairbairn. John Hetherington.
Machinery or apparatus for spinning cotton and other fibrous substances - - - - -	12,873	3rd Dec. 1849	{ William Eccles, senior. William Eccles, junior. Henry Eccles.
Machinery for spinning cotton-wool, flax, silk, and similar fibrous materials - - - - -	12,887	12th Dec. 1849	{ John Henry Jenkinson. Thomas Priestley.
Spinning and throwing organzine silk - - - - -	12,891	15th Dec. 1849	Thomas Rock Shute.
Machinery for spinning cotton and other textile materials - - - - -	12,952	29th Jan. 1850	{ John Mason. Mark Smith.
Machinery for spinning flax and other substances -	13,010	23rd March 1850	John Stevenson.
Machinery for spinning cotton and other fibrous substances.	13,027	26th March 1850	Evan Leigh.
Machine or apparatus for spinning cotton, flax, and other fibrous substances.	13,034	11th April 1850	John Platt.
Machinery or apparatus and operations connected with the manufacture of cotton-wool, silk, and other fibrous substances, and the application of certain materials to the manufacture of textile fabrics [making spindles hollow] - - - - -	13,072	7th May 1850	{ John Tatham. David Cheetham.
Machinery or apparatus for spinning cotton-wool and other fibrous materials - - - - -	13,085	29th May 1850	{ James Ashworth. Thomas Mitchell.
Treatment or preparation of yarns or threads for weaving [giving yarns an extra twist after being spun, to permanently crease or pleat the cloth made from them].	13,099	4th June 1850	Theodore Cartali.
Machinery for spinning cotton and other fibrous substances.	13,106	6th June 1850	William Robertson.
Machinery or apparatus for spinning cotton and other fibrous materials.	13,127	12th June 1850	William M'Lardy.
Machinery or apparatus for spinning cotton, flax, and other fibrous substances; constructing and applying models for moulding, preparatory to casting parts of machinery employed in spinning and manufacturing fibrous substances; also tools to be used in making such machinery - - -	13,208	31st July 1850	{ Peter Fairbairn. John Hetherington.
Yarns [flax, cotton, and other compound yarns] -	13,224	16th Aug. 1850	Peter Claussen.
Machinery or apparatus for spinning and twisting cotton and other fibrous substances.	13,242	5th Sept. 1850	John Saul.
Preparation or manufacture of textile materials; machinery or apparatus used therein [regulating the formation or building of creps in spinning-machinery].	13,255	12th Sept. 1850	Thomas Lucas Paterson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery or apparatus for spinning or twisting silk waste, cotton-wool, flax, or other fibrous substances.	13,273	10th Oct. 1850	Charles Bury.
Machinery or apparatus for spinning, doubling, and throwing raw silk.	13,274	10th Oct. 1850	Charles Bury.
Manufacturing yarns [condensing, twisting, and spinning rovings].	13,279	10th Oct. 1850	William Edward Newton.
Spinning cotton and other fibrous materials - -	13,280	17th Oct. 1850	Henry Bernoulli Barlow.
Manufacture of cotton and other fibrous materials, and fabrics composed of such materials [throstle frames] - - - - -	13,313	2nd Nov. 1850	{ John Tatham. David Cheetham.
Machinery or apparatus for spinning cotton-wool and other fibrous substances.	13,325	7th Nov. 1850	David Christie.
Machinery or apparatus for spinning cotton, flax, and other fibrous substances.	13,379	2nd Dec. 1850	John Platt.
Machinery or apparatus for spinning cotton, flax, and other fibrous substances - - - - -	13,449	11th Jan. 1851	{ John Clarkson Milns. Samuel Pickstone.
Manufacture of coloured yarns of wool and other fibres [parti-coloured].	13,491	5th Feb. 1851	Benjamin Ledger Shaw.
Manufacture of certain parts of machinery used in spinning.	13,495	7th Feb. 1851	William Onions.
Machinery for spinning cotton-wool or other fibrous substances.	13,537	28th Feb. 1851	Charles Felton Kirkman.
Machinery or apparatus for spinning and twisting cotton or other fibrous substances.	13,539	3rd March 1851	James Leach.
Manufacture of certain yarns of linen, wool, silk, cotton, or other fibrous substances [parti-coloured].	13,551	10th March 1851	George Roberts.
Manufacture of bleached, coloured, or parti-coloured threads or yarns [by bleaching, dyeing, and arranging slicers before spinning].	13,569	24th March 1851	James Cheetham.
Spinning-machines [an extension for the term of five years of Patent No. 7263, from the 21st December 1850].	13,644	27th May 1851	James Potter.
Machinery or apparatus for spinning cotton-wool, silk, flax, or other fibrous substances.	13,748	18th Sept. 1851	John Wornald.
Manufacture of roller-guides and throstle-bars by the application of materials not hitherto used for such purposes [this part of the patent was disclaimed].	13,773	16th Oct. 1851	William Onions.
Spinning cotton and other fibrous substances - -	13,780	22nd Oct. 1851	Ephraim Hallum.
Machinery for the preparation and manufacture of fibrous materials [spinning machinery; spindles] }	13,784	22nd Oct. 1851	{ John Platt. Christian Schigle.
Spinning wool, alpaca, mohair, and other fibrous materials - - - - -	13,822	20th Nov. 1851	{ Joseph Sharp Bailey. Isaac Bailey.
Spinning wool and other fibrous materials - -	14,045	27th March 1852	Jean Jacques Bourcart.
Machinery for spinning and twisting cotton and other fibrous substances - - - - -	14,046	27th March 1852	{ William Thompson. John Hewitt.
Machinery for twisting and spinning cotton-wool, silk, flax, and other fibrous substances - - }	14,061	15th April 1852	{ Edwin Pettitt. James Forsyth.
Spinning and twisting cotton-wool, and other fibrous materials; tools or apparatus for constructing parts of machines used in such manufactures - }	14,140	22nd May 1852	{ John Mason. George Collier.
Machinery for spinning cotton and other fibrous substances.	14,154	5th June 1852	William Haughton

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c. —continued.</b>			
Machinery for spinning flax, tow, hemp, cotton, and other fibrous substances.	14,162	10th June 1852	Thomas Wilkes Lord.
Machinery or apparatus for spinning cotton and other fibrous substances - - - - }	14,202	6th July 1852	{ James Higgins. Thomas Schofield Whitworth.
Manufacture of thread, yarn, and various textile fabrics, from certain fibrous matters.	14,229	20th July 1852	Stribblehill Norwood May.
Machinery for preparing cotton and other fibrous materials [a lump or weight on the upper part of the spindle legs, and connected to the presser finger].	14,241	29th July 1852	James Denton.
Manufacture of yarns and fabrics when cotton-wool and silk are employed [combining them for the purpose of spinning].	14,250	31st July 1852	William Ackroyd.
Machinery or apparatus for spinning cotton-wool and other fibrous substances.	14,256	10th Aug. 1852	Edward Joseph Hughes.
Machinery or apparatus for spinning cotton and other fibrous substances.	14,267	19th Aug. 1852	Henry Spencer.
Machinery and apparatus for spinning wool, hair, flax, silk, and all other fibrous materials.	14,325	18th Oct. 1852	William Brown.
<b>V.—Doubling and twisting Yarn; making Thread.</b>			
Engine for making, twisting, and cording mohair and worsted, also twining and dressing thread for tailors and others.	515	8th May 1730	John Kay.
Two machines for twisting threads three together; another machine with bobbins fitted thereto to double raw silk on the spindle, as the same moves round in throwing.	519	21st Sept. 1730	Richard Wilder.
Machine for twining and twisting yarn into thread for the making of superfine lace or canbric.	563	27th June 1738	Adrianus Vanden Bommenaeer.
Making an engine for twisting cotton - - - -	982	12th June 1770	James Hargraves.
Machine for doubling and running silk, thread, cotton, or worsted; also linen, woollen, and other yarns.	1009	23rd March 1772	Samuel Unwin.
Machine for doubling yarns of cotton-wool, silk, flax, hemp, or mohair, or of any other materials.	1126	6th June 1776	Henry Marsland.
Machine for twisting mohair, worsted, thread, cotton, hemp, flax, and gold and silver cords.	1606	19th May 1787	Thomas Sandys.
Machine for making thread used in manufacturing bone lace, called Mechlin long dozen and bell.	1650	9th May 1789	Charles Smith.
Machine for doubling silk, cotton, and wool - - -	1896	5th July 1792	Peter Atherton.
Machine for twisting and doubling wool and cotton	2036	29th Jan. 1795	Peter Atherton.
Machine for doubling, twisting, or making, reeling and skeining, worsted, thread, silk, cotton, and other articles of such kind, which requires only one person to work, manage, and direct.	2145	7th Nov. 1796	John Davidson.
Machine for doubling and twisting silk, cotton, and thread;—capable of being applied to other purposes.	2192	13th Sept. 1797	Samuel Stansfield.
Machine for doubling silk, cotton, flax, hemp, or worsted yarns, or other threads.	2460	30th Dec. 1800	John Sharrer Ward.
Machinery for laying thread - - - - -	2770	2nd June 1804	John Heppenstall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Mills and machinery for doubling and twisting thread of silk, cotton, flax, hemp, and other similar articles.	2802	19th Dec. 1804	Thomas Margrave.
Mill for twisting thread - - - - -	3156	30th July 1808	Joseph Mason Guest.
Machinery for twisting and doubling cotton, flax, hemp, tow, worsted, wool, silk, or any other substance into thread, preparatory to their being manufactured or otherwise used - - - - -	3179	8th Nov. 1808	{ John Hartley. John Musgrave. William Farmery.
Machinery for doubling and twisting cotton, silk, flax, wool, mohair, and other materials used in the manufacture of twist and other yarn.	3360	7th July 1810	Richard Varley.
Machines for twisting thread - - - - -	3445	7th May 1811	Thomas Cranfield.
Twisting and laying cotton, silk, and various other articles.	3816	7th June 1814	John Buxton.
Twisting and laying hemp, flax, thread, mohair, wool, cotton, silk, and metals, by machinery.	3903	4th April 1815	William Vaughan Palmer.
Machinery adapted for uniting several threads into one, and certain combination of such machinery with other machines already known and in use [applying a machine called an "eagle" to the production of thread or sewing-cotton].	4485	11th July 1820	James White.
Apparatus to facilitate or improve the doubling of silk, cotton-wool, or flax, or mixtures of the same.	4788	29th April 1823	Joseph Taylor.
Machine for twisting cotton, flax, silk, wool, or other fibrous substances.	4807	26th June 1823	John Green.
Machinery for doubling wool, cotton, silk, flax, and other fibrous substances.	4833	18th Aug. 1823	Thomas Leach.
Machinery for doubling and twisting cotton, silk, and other fibrous substances.	4859	6th Nov. 1823	Thomas Foster Gimson.
Doubling and twisting silk, wool, cotton, flax, } hemp, and such like materials - - - - -	5081	13th Jan. 1825	{ William Booth. Michael Bailey.
Doubling silk, wool, cotton, or any other fibrous substances.	5092	10th Feb. 1825	Richard Badnall.
Machinery for doubling cotton-wool and other fibrous substances.	5196	21st June 1825	John Frederick Smith.
Apparatus for doubling and twisting silk - - -	5238	12th Aug. 1825	Henry Richardson Fanshaw.
Doubling wool, cotton, and other fibrous substances.	5320	19th Jan. 1826	John Frederick Smith.
Machinery for twisting fibrous substances - - -	5432	18th Dec. 1826	Maurice De Jough.
Machines for doubling and twisting cotton and other fibrous substances.	5576	4th Dec. 1827	Maurice De Jough.
Machinery for doubling and twisting silk and other fibrous substances.	6049	13th Dec. 1830	William Needham.
Machinery for doubling and twisting threads and yarns of cotton, silk, flax, wool, and other fibrous substances.	6083	11th March 1831	Charles Wood.
Machines or "doubling-frames" for doubling and twisting yarns made from cotton, silk, linen, woollen, and other fibrous substances.	6264	1st May 1832	Charles Axon.
Doubling cotton, silk, flax, and other fibrous substances.	6427	25th May 1833	James Jones.
Machinery for doubling cotton, silk, flax, and other fibrous materials - - - - -	6690	8th Oct. 1834	{ Thomas Sharp. Richard Roberts.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for twisting and doubling cotton and other fibrous substances.	6698	20th Oct. 1834	Malcolm M'Gregor.
Doubling cotton, silk, flax, and other fibrous substances.	6699	20th Oct. 1834	James Jones.
Machinery for doubling cotton, flax, wool, silk, and other fibrous substances.	6813	14th April 1835	Joseph Whitworth.
Doubling organzine silk - - - - -	6882	17th Aug. 1835	Thomas Rock Shute.
Machinery for twisting and doubling cotton and other fibrous substances.	6874	6th Jan. 1836	James Champion.
Machinery for doubling cotton and other fibrous substances.	6875	6th Jan. 1836	John Ramshotbottom.
Machinery for doubling hard and soft silk - -	6876	8th Jan. 1836	William Harter.
Machinery used for doubling yarn or thread made from cotton or other fibrous material.	7048	29th March 1836	Charles De Bergue.
Machinery for doubling cotton-wool and other fibrous substances.	7095	17th May 1836	Joseph Whitworth.
Machinery for doubling cotton and other fibrous substances.	7220	10th Nov. 1836	Joel Livsey.
Machinery for doubling cotton-wool and other fibrous substances.	7226	19th Nov. 1836	Joseph Whitworth.
Machinery for doubling and twisting cotton and other fibrous substances.	7319	8th March 1837	John Consitt.
Machinery for doubling cotton, silk, and other fibrous substances.	7341	15th April 1837	Horatio Nelson Aldrich.
Machinery for doubling cotton, silk, flax, and other fibrous materials.	7388	12th June 1837	John George Bodmer.
Machine for doubling and twisting silk; "Silk-worm."	7663	31st May 1838	William Needham.
Machinery for doubling cotton, silk, flax, wool, and other fibrous substances.	7663	2nd June 1838	Francis Sleddon.
Machinery for doubling wool, flax, cotton, silk, and other fibrous materials.	7694	19th June 1838	William Garnett.
Machinery for doubling and twisting cotton, flax, wool, silk, and other fibrous substances.	7700	22nd June 1838	Peter Fairbairn.
Machinery partly applicable for doubling wool, cotton, flax, or other fibrous substances.	7733	12th July 1838	Joseph Bennett.
Application of an improved covering for the rollers used in twisting and doubling wool, cotton-wool, flax, silk, mohair, or any other fibrous material or substance.	7814	19th Dec. 1838	John Ratcliffe.
Machinery for doubling and twisting cotton and other fibrous materials.	7929	11th Jan. 1839	John Howarth.
Machinery for doubling silk and other fibrous materials.	7979	23rd Feb. 1839	William Nash.
Machinery for doubling or twisting cotton, flax, wool, silk, or other fibrous materials; — partly applicable to machinery in general.	8290	2nd Dec. 1839	Godfrey Anthony Ernen.
Machinery for doubling and twisting flax, wool, } silk, cotton, and other fibrous substances - - }	8332	2nd Jan. 1840	{ Samuel Lawson. John Lawson.
Preparing weft to be used in weaving woollen cloth and cloths made of wool and other materials [by doubling or laying two, three, or more ends together].	8409	3rd March 1840	Joseph Clisild Daniell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for doubling cotton, flax, wool, and other fibrous substances - - - - - }	8411	3rd March 1840	{ William Craig. William Douglas Sharp.
Doubling wool, cotton, silk, and other fibrous substances.	8460	31st March 1840	John Lebrecht Steinhäuser.
Machinery for doubling wool, cotton, silk, flax, and other fibrous substances.	8519	28th May 1840	Edmund Leach.
Twisting-machinery used for doubling cotton-wool, silk, flax, and other fibrous substances.	8558	26th June 1840	Thomas Spencer.
Machinery for doubling cotton, silk, wool, and other fibrous materials.	8908	30th March 1841	Thomas Gore.
Machinery for doubling cotton, silk, wool, worsted, flax, and other fibrous substances.	8989	12th June 1841	Ezekiel Jones.
Twisting and doubling cotton and other fibrous substances.	10,080	24th Feb. 1844	James Smith.
Machinery for doubling cotton, silk, wool, and other fibrous substances.	10,150	18th April 1844	Richard Roberts.
Machinery for doubling cotton, worsted, and other fibrous materials.	10,315	12th Sept. 1844	Henry Cooper.
Machinery for doubling cotton and other fibrous substances.	10,354	17th Oct. 1844	Jean Baptiste Paul Chappé.
Doubling and twisting silk, cotton, and other substances.	10,375	2nd Nov. 1844	Jean Baptiste Maniquet.
Machinery for doubling cotton wool, silk, flax, and other fibrous materials.	10,537	3rd March 1845	Thomas Schofield Whitworth.
Machinery for doubling cotton-wool, flax, silk, and other fibrous materials - - - - - }	10,584	2nd April 1845	{ James Higgins. Thomas Schofield Whitworth.
Machinery for doubling cotton, silk, woollen, and linen yarns.	10,720	12th June 1845	Thomas Willis.
Parts of machinery for doubling cotton-wool and other fibrous substances.	10,722	17th June 1845	Benjamin Fothergill.
Machinery for doubling cotton and other fibrous substances.	11,192	5th May 1846	William Longshaw.
Parts of machinery for doubling cotton-wool and other fibrous substances - - - - - }	11,243	16th June 1846	{ Benjamin Fothergill. Richard Johnson.
Machines for doubling cotton-wool and other fibrous substances.	11,755	19th June 1847	James Hill.
Doubling cotton and other fibrous substances -	11,873	23rd Sept. 1847	Henry Newton.
Making heald and genappe yarns [and scouring, setting, and stretching woollen yarns for the purpose] - - - - - }	11,896	7th Oct. 1847	{ Samuel Cunliffe Lister. Isaac Holden.
Machinery for twisting and doubling cotton yarns and other fibrous materials - - - - - }	12,164	26th May 1848	{ Matthew Hague. Joseph Firth.
Machinery for doubling and twisting flax, tow, and other fibrous substances.	12,201	6th July 1848	John Martin.
Machinery for doubling cotton-wool, flax, silk, and similar fibrous materials - - - - - }	12,441	25th Jan. 1849	{ Robert Shaw. Samuel Fletcher Cottam.
Machinery for doubling cotton yarns and other fibrous materials.	12,606	10th May 1849	George Henry Dodge.
Machinery for doubling - - - - -	12,771	13th Sept. 1849	James Potter.
Machinery for doubling cotton-wool, flax, silk, and other fibrous materials - - - - - }	12,785	24th Sept. 1849	{ James Higgins. Thomas Schofield Whitworth.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPINNING, &amp;c.—continued.</b>			
Machinery for doubling cotton and other fibrous substances - - - - - }	12,805	12th Oct. 1849	{ Robert Lakin. William Henry Rhodes.
Machinery for doubling or twisting cotton-wool, silk, flax, and other fibrous substances.	12,822	2nd Nov. 1849	George Park Macindoe.
Machinery for doubling and twisting cotton-wool and other fibrous substances.	12,882	10th Dec. 1849	David Christie.
Machinery to be used for doubling cotton-wool, flax, silk, and similar fibrous materials - - }	12,887	12th Dec. 1849	{ John Henry Jenkinson. Thomas Priestley.
Doubling organzine silk - - - - -	12,891	15th Dec. 1849	Thomas Rock Shute.
Looms for weaving linen, woollen, and cotton cloths [also winding, doubling, and twisting the yarn in one frame during weaving].	12,945	26th Jan. 1850	Winceslas le Baron de Traux de Wardin.
Machinery for doubling cotton, flax, and other fibrous substances.	13,034	11th April 1850	John Platt.
Machinery used for doubling cotton and other fibrous substances.	13,106	6th June 1850	William Robertson.
Machinery or apparatus for doubling cotton and other fibrous materials.	13,127	12th June 1850	William McLardy.
Machinery or apparatus for doubling or twisting silk-waste, cotton-wool, flax, or other fibrous substances.	13,273	10th Oct. 1850	Charles Bury.
Machinery for doubling raw silk - - - - -	13,374	10th Oct. 1850	Charles Bury.
Machinery for doubling and twisting cotton-wool and other fibrous substances.	13,325	7th Nov. 1850	David Christie.
Machinery for doubling cotton, flax, and other fibrous substances.	13,379	2nd Dec. 1850	John Platt.
Machinery for doubling cotton, flax, and other fibrous substances - - - - - }	13,449	11th Jan. 1851	{ John Clarkson Milns. Samuel Pickstone.
Machinery for doubling and twisting cotton and other fibrous substances.	13,539	3rd March 1851	James Leach.
Machinery for doubling cotton-wool, silk, flax, and other fibrous substances.	13,748	18th Sept. 1851	John Wormald.
Machinery for doubling and twisting cotton and other fibrous substances - - - - - }	14,046	27th March 1852	{ William Thompson. John Hewitt.
Machinery for twisting, drawing, and doubling cotton-wool, silk, flax, and other fibrous substances - - - - - }	14,061	15th April 1852	{ Edwin Pettitt. James Forsyth.
Twisting and doubling cotton-wool and other fibrous materials; apparatus for constructing parts of machines used in such manufactures - }	14,140	22nd May 1852	{ John Mason. George Collier.
Machinery for doubling cotton and other fibrous substances - - - - - }	14,203	6th July 1852	{ James Higgins. Thomas Schofield Whitworth.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPRINGS AND BUFFERS.</b>			
Mathematical instrument consisting of several springs, for the ease of persons riding in coaches, chaises, and other conveyances.	376	12th April 1706	Henry Mill.
Steel worm or rolling spring to be used in coaches, chariots, or other carriages.	470	24th Oct. 1724	Thomas Rogers.
Secret spring to secure a watch in a man's fob or by a lady's side.	639	31st Jan. 1749	Benjamin Cartwright.
Coach-springs - - - - -	717	11th Nov. 1757	William Harrison.
Ribbed spring for hanging coaches and other carriages.	738	21st Feb. 1759	Richard Tredwell.
Iron machine for moulding and setting all kinds of springs for hanging coaches and other carriages.	768	10th Feb. 1762	Richard Tredwell.
Springs for hanging coaches and other carriages -	789	10th Feb. 1762	{ Richard Tredwell. Thomas Overton.
Making springs for hanging coaches and other carriages.	792	29th July 1763	Richard Tredwell.
Springs for saddles, pillions, and their stirrups -	816	29th Oct. 1764	Richard Tredwell.
Machine and spring for the purpose of causing coaches, chaises, chariots, or any other vehicle to hang more steadily.	855	5th Aug. 1766	Thomas Pease.
Making springs for coaches and other carriages, with a worm and pin, and with or without a plate fixed, to answer many useful purposes.	861	8th Nov. 1766	Richard Tredwell.
Springs for hanging coaches and other carriages -	863	21st Nov. 1766	John Hatchett.
Springs for coaches and other four-wheeled carriages.	927	8th June 1769	Christopher Reeves.
Spiral springs, hoop-wheels, and leather boxes for wheeled carriages.	932	13th July 1769	Joseph Jacob, junior.
New invented use of an elastic or spring, adapted to or to be fitted in or with bonnets, hats, military caps, hatbands, and other such like pieces of dress for both sexes, and so pliant as not to be removed or incommoded by the most stormy weather, and when used in or with boots, shoes, shoe-boxes or clogs, slippers, ladies' glove-knots, and other such like parts of dress, has the best effect of rendering them firmer than any hitherto used.	1217	3rd April 1779	William Clarkson.
Silver, brass, or steel spring inserted in the boot above the calf of the leg, in order to keep the boot in its proper position.	1326	18th April 1782	Charles Chapman.
Apparatus for closing doors - - - - -	1547	13th June 1786	Francis Moore.
Applying springs to saddles, stirrups, martingale-rings, whips, caps, buckles for belts, bridle-bits, territs for harness, squares for stable-collar reins, trusses or bandages for ruptures, and milking-pails.	1558	29th Sept. 1786	Thomas Smith.
Detector or pocket-spring for preventing the pocket being picked.	1630	22nd Nov. 1787	John Pickering.
Spring for shutting doors - - - - -	1742	13th April 1790	Henry Downer.
Making and manufacturing springs and other articles of iron or steel, or of both united - - }	2134	25th Aug. 1796	{ Arnold Wilde. Joseph Ridge.
Springs for desks, tables, chairs, stools, tambour-frames, library-steps, bedsteads, and various other articles.	2248	6th July 1798	Day Gunby.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPRINGS AND BUFFERS—continued.</b>			
Applying springs to the shafts of two-wheeled carriages; "Anti-mobile."	2307	16th April 1799	Henry Wildey.
Elastic spring for making bolting-cloths without seams.	2386	31st March 1800	Benjamin Blackmore.
Application of springs to wheel carriages - - -	4092	20th Jan. 1817	William Manton.
Springs applicable to various descriptions of carriages [made of lance-wood instead of steel] - }	4562	17th May 1821	{ Robert Paul. Samuel Hart.
Construction of harness for animals of draught and burden [applying helical springs to the traces of harness].	4566	8th Sept. 1821	David Gordon.
Instrument to be affixed to the saddle-tree, by the application of which distress to the horse may be avoided [springs to prevent the girth pressing against the horse's sides].	4844	11th Sept. 1823	Henry Constantine Jennings.
Spring to be applied to bolting-mills for dressing flour [to give tension to the bolting-cloth].	5102	19th Jan. 1825	James Ayton.
Springs for closing doors and gates [double-acting] -	5123	15th March 1825	John Collinge.
Mechanical invention for suspending and securing windows and other apparatus [springs with rollers affixed to the stiles] - - - - }	5334	18th Feb. 1826	{ Benjamin Newmarch. Charles Bonnor.
Spring or combination of springs for forming an elastic resisting medium.	5349	25th April 1826	John Petty Gillespie.
Manufacture of springs, chiefly applicable to carriages [of bars of steel rolled in convex forms].	5371	23rd May 1826	Richard Slagg.
Apparatus on which to suspend carriage-bodies [springs formed by helical coils of steel-wire, or by pieces of india-rubber in boxes.]	5423	18th Nov. 1826	Henry Charles Lacy.
Coach and other springs - - - - -	5811	4th July 1829	George King Sculthorpe.
Certain improvements in or additions to harness and saddlery;—partly applicable to other purposes [spring fastenings to be attached to harness].	5814	8th July 1829	William Leeson.
Springs or combination of springs, applicable to carriages and to other purposes.	5908	27th Feb. 1830	Moses Poole.
Application of spring carriages [applying springs to carriages].	6054	17th Dec. 1830	Augustus Graham.
Springs applicable to carriages - - - - -	6722	25th Nov. 1834	Robert Joseph Barlow.
Combination or arrangement of springs for carriages	6992	30th Jan. 1836	William Boulnois, junior.
Wheel carriages [springs] - - - - -	7212	20th Oct. 1836	William Bridges Adams.
Spring or arrangement of springs for wheel carriages	7457	4th Nov. 1837	Richard Joshua Iremonger.
Springs and braces of wheel carriages - - -	7811	13th Sept. 1838	Archibald M'Lellan.
Construction of springs for carriages - - -	7924	3rd Jan. 1839	Louis Mathurin Bussan du Maurier.
Improvements applicable to springs for wheeled carriages.	8136	29th June 1839	Moses Poole.
Application of springs to carriages - - - -	8521	28th May 1840	William Henry Smith.
Applying springs to locomotive and railway and other carriages.	8727	27th Nov. 1840	John Condie.
Construction of wheel carriages and of certain appendages thereto [applying a bar with buffer-heads to railway-carriages; also springs].	8756	28th Dec. 1840	William Bridges Adams.
Buffing apparatus for railway purposes - - -	8825	1st Feb. 1841	William Wilkinson Taylor.
Apparatus for giving elasticity to parts of railway and other carriages.	9515	8th Nov. 1842	John Spinks, junior.
Manufacture of springs for carriages - - - -	9653	2nd March 1843	William Walker.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPRINGS AND BUFFERS—continued.</b>			
Construction of carriage-springs - - - -	10,343	10th Oct. 1844	John Bower Brown.
Spring hinges and spring roller-blinds; applying springs to easy-chairs and carriages.	10,456	11th Jan. 1845	John Gollop.
Application of springs to locks and other fastenings, to paper-holders, candle-lamps, blinds, window-sashes and doors, and to seats and elastic surfaces for sitting or reclining upon.	10,460	11th Jan. 1845	Stephen Perry.
Springs to be applied to girths, belts, and bandages	10,568	17th March 1845	{ Stephen Perry. Thomas Barnabas Daft.
Means of preventing accidents to carriages on railways and common roads [ <i>buffing apparatus</i> ].	10,571	18th March 1845	Henry Samuel Rayner.
Springs and elastic power as applicable to railway-carriages and to other vehicles and purposes -	10,750	3rd July 1845	{ Thomas Walker. George Mills.
Springs for railway and other carriages - - -	10,808	7th Aug. 1845	Henry Smith.
Construction of carriages for railways [ <i>india-rubber buffer and other springs</i> ].	10,894	23rd Oct. 1845	William Coles Fuller.
Apparatus to be applied to railway-carriages to reduce the effects of collisions.	11,071	3rd Feb. 1846	Edwin Chesshire.
Two and four-wheeled carriages [ <i>springs</i> ] - -	11,336	15th Aug. 1846	William Aitken.
Construction of wheel carriages, and engines moved or retarded by animal or mechanical agency;—partly applicable to other like purposes [ <i>construction of buffers and springs for railway and other wheel carriages</i> ].	11,445	2nd Nov. 1846	William Bridges Adams.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of springs and buffers for railway-carriages</i> ] - - -	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Applying springs to braces, portfolios, hats and caps, also to memorandum and other books.	11,513	31st Dec. 1846	Charles Dowse.
Springs for carriages and for other purposes - -	11,649	8th April 1847	{ Charles De Bergue. John Coope Haddan.
Springs for supporting heavy bodies and resisting sudden and continuous pressure [ <i>for railway and other carriages</i> ].	11,662	20th April 1847	Joseph Woods.
Construction of pneumatic springs - - -	11,712	22nd May 1847	Moses Poole.
Railway-carriages [ <i>disc-buffer</i> ] - - - -	11,715	24th May 1847	{ William Bridges Adams. Robert Richardson.
Buffing and traction apparatus, and springs for railway and other carriages [ <i>application of vulcanized india-rubber rings</i> ].	11,815	26th July 1847	Charles De Bergue.
Atmospheric buffer to be applied to carriages and other vehicles travelling on railways.	11,843	19th Aug. 1847	James Webster.
Buffers for railway-carriages - - - -	11,847	2nd Sept. 1847	Charles Chabot.
Spring apparatus - - - - -	12,095	14th March 1848	Alexander Alliott.
Machinery for bending and fitting plates or bars of steel, iron, and other materials, to be used for locomotive-engine and carriage springs, and for other purposes.	12,173	1st June 1848	Thomas Burdett Turton.
Air-spring and atmospheric resisting power - -	12,200	6th July 1848	George Beattie.
Springs - - - - -	12,274	28th Sept. 1848	Robert Stirling Newall.
Construction of buffers - - - - -	12,327	16th Nov. 1848	Alexander Balfour.
Springs applicable to window-blinds, doors, and other purposes.	12,375	16th Dec. 1848	Edward Smith.
Springs for railway and other purposes - - -	12,435	23rd Jan. 1849	Charles De Bergue.
Supporting pressure, resisting strain, and protecting against fire - - - - -	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SPRINGS AND BUFFERS—continued.</b>			
Spring apparatus [disclaimed] - - - -	12,626	2nd June 1849	Moses Poole.
Metallic springs for carriages - - - -	12,699	7th July 1849	{ Edward Ives Fuller. George Tabernacle.
Buffers for railway purposes - - - -	12,828	2nd Nov. 1849	Michael John Haines.
Manufacture of elastic mattresses;—partly applicable to other purposes where sudden or continuous pressure is required to be sustained or transmitted [ <i>buffer and suspension springs for railway and other carriages</i> ].	12,874	3rd Dec. 1849	Joseph Paradis.
Buffer and draw-springs for railway-carriages - -	12,878	5th Dec. 1849	Samuel Fisher.
Connecting the springs of wheeled carriages with the axles or axle-boxes.	12,925	11th Jan. 1850	James M'Donald.
Improvements in saddles;—partly applicable to the standing rigging and other furniture of ships or vessels, and to the connecting links or chains of railway-carriages, and other purposes where tension combined with a certain degree of elasticity is required [ <i>applying springs</i> ].	12,953	29th Jan. 1850	Francis Edward Colegrave.
Buffers for railway purposes - - - -	18,043	15th April 1850	Charles De Bergue.
Construction and means of applying carriage and certain other springs - - - -	18,045	18th April 1850	{ William Buckwell. George Fisher.
Construction of springs for carriages and other uses	18,090	1st June 1850	Moses Poole.
Pneumatic springs [ <i>for hydrostatic presses</i> ] - -	18,272	4th Oct. 1850	Julian Bernard.
Improvements in part applicable where springs for resisting sudden and continuous pressure, and for supporting heavy bodies, are required.	18,361	21st Nov. 1850	John James Greenough.
Construction and means of applying carriage and other springs.	18,510	11th Feb. 1851	James Webster.
Railway-buffers - - - -	18,649	29th May 1851	William Crane Wilkins.
Construction of roads and ways for the transit of passengers, materials, and goods; locomotive-engines and carriages;—partly applicable to other like purposes [ <i>buffers for locomotive-engines; covering springs for railway-carriages</i> ].	18,653	3rd June 1851	William Bridges Adams.
Sustaining travelling-carriages and other articles;—applicable to other like purposes [ <i>springs for railway and other carriages</i> ].	18,710	5th Aug. 1851	Levi Biasell.
Springs and appendages to railway engines and carriages.	18,797	4th Nov. 1851	Henry Vigurs.
Springs of railway carriages, trucks, and waggons [ <i>rings of vulcanized india-rubber for draw-springs</i> ].	18,951	2nd Feb. 1852	George Spencer.
Springs and spring-bearings for carriages - -	14,010	8th March 1852	Uriah Scott.
Spring for railway-carriages - - - -	14,018	8th March 1852	Paul Rapsey Hodge.
Application of india-rubber and gutta-percha, and of compounds thereof [ <i>to produce spring-bearings</i> ].	14,193	28th June 1852	James Edward Coleman.
Construction of springs for railway and other carriages [ <i>of india-rubber</i> ].	14,347	25th Nov. 1852	Auguste Edouard Lora-doux Bellford.
Elastic ribs, sticks, strips, and fillets used in the manufacture of umbrellas, parasols, and various other articles, in substitution of whalebone and steel [ <i>making springs for corsets by using india-rubber combined with sulphur</i> ].	14,348	27th Nov. 1852	Moses Poole.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STATIONERY AND BOOKBINDING; FILING AND SECURING PAPERS.</b>			
<b>I.—Pens, Pencils, and Holders.</b>			
Sliding pen and pencil, for drawing and dividing lines, circles and angles, which may be measured, divided, and determined at first sight, also for drawing problems and plans in perspective.	985	23rd March 1771	Anthony George Eckhardt.
Making crayons for drawing and other purposes -	1301	28th July 1781	Thomas Beckwith.
Sliding lead pencils - - - - -	1409	17th Dec. 1783	Jonas Jonas.
Pencils, "Pyke's patent improved pencils" - -	2774	20th June 1804	Lyon Pyke.
Pens - - - - -	5118	14th March 1808	Bryan Donkin.
Pen to promote facility in writing - - - - -	3314	4th March 1809	{ Frederick Bartholomew Folsch. William Howard.
Writing pens - - - - -	3235	9th May 1809	Bartholomew Folsch.
Making pens for writing - - - - -	3260	23rd Sept. 1809	Joseph Bramah.
Gilding and preparing quills and pens by manual labour, and chemical operations.	4299	31st Oct. 1818	Charles Watt.
Instrument for writing, "Pennographic, or writing instrument" [ <i>self-supplying pen</i> ].	4389	8th July 1819	John Scheffer.
Pens, "Caligraphic fountain pens" - - - - -	4426	20th Dec. 1819	James Henry Lewis.
Pencil holders or port-crayons; pens for facilitating writing and drawing by rendering the frequent cutting or mending of the points or nibs unnecessary - - - - -	4742	20th Dec. 1822	{ John Isaac Hawkins. Sampson Mordan.
Inkstand to supply ink by means of pressure [ <i>also a fountain pen</i> ].	5105	26th Feb. 1825	David Edwards.
Apparatus for writing, "Self-supplying pen" -	5517	4th July 1827	George Poulton.
Pens [ <i>metallic</i> ] - - - - -	5933	24th April 1830	James Perry.
Writing and drawing pens and penholders; method of using the same.	6136	13th July 1831	Sampson Mordan.
Construction of writing pens and penholders; } method of using the same - - - - -	6163	20th Sept. 1831	{ Sampson Mordan. William Brockedon.
Making metallic pens - - - - -	6169	27th Sept. 1831	Joseph Gillott.
Pens - - - - -	6215	28th Jan. 1832	James Perry.
Fountain pens - - - - -	6288	26th July 1832	John Jacob Parker.
Construction of metal pens - - - - -	6320	11th Oct. 1832	William Woods.
Instrument for pointing pencils, and for certain } other purposes - - - - -	6485	12th Oct. 1833	{ Robert Burton Cooper. George Frederick Eckstein.
Pens and penholders - - - - -	6512	19th Nov. 1833	{ Stephen Perry. Edward Massey, senior. Paul Joseph Gauci.
Metallic pens and penholders - - - - -	6549	25th Jan. 1834	Neil Arnott.
Pencil, pen, and chalk cases or holders - - -	6565	27th Feb. 1834	James Duffield Harding.
Pens and penholders - - - - -	6678	20th Sept. 1834	{ Stephen Perry. Edward Massey, senior. Paul Joseph Gauci.
Manufacture of pens made of steel or other elastic metal.	6740	23rd Dec. 1834	Richard Simister.
Pens, penholders, and apparatus for supplying ink to pens; also apparatus for making pens.	6759	9th Feb. 1835	Charles Cleveland.
Pens for ruling paper - - - - -	6886	17th Aug. 1835	William Banks.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STATIONERY, &amp;c.—continued.</b>			
Manufacturing triple pointed pens - - -	7071	23rd April 1836	John Sampson Mordan.
Means of giving elasticity, freedom of action, and durability to pens, also obtaining a supply and flow of ink therefrom - - - - -	7321	13th March 1837	{ Henry Christopher Windle. Joseph Gillott. Stephen Morris.
Pens for writing - - - - -	7333	28th March 1837	Henry Stephens.
Metallic pen and penholder, "Patent Flexion Pen"	8734	16th Dec. 1840	Charles Winterton Baylis.
Manufacture of metallic pens and penholders - -	9514	8th Nov. 1842	John Mitchell.
Pens, penholders, and pencil cases;—partly applicable to other purposes.	9719	4th May 1843	Josiah Longmore.
Preparing or treating black lead - - - -	9977	8th Dec. 1843	William Brockedon.
Manufacture of metallic pens; machines for the purpose - - - - -	10,005	4th Jan. 1844	{ John Hinks. George Wells. Joseph Finnemore.
Improvements in part applicable to penholders -	10,103	14th March 1844	Frederick Stephenson.
Apparatus called ever-pointed pencils - - -	10,297	29th Aug. 1844	Mark Freeman.
Steel pens - - - - -	10,410	2nd Dec. 1844	James Wigglesworth.
Apparatus used in connection with writing [ <i>pen wipers</i> ].	11,016	23rd Dec. 1845	Henry Pershouse.
Manufacture of penholders - - - - -	11,281	6th July 1846	George Downing.
Manufacture of pens - - - - -	11,412	15th Oct. 1846	John Hornby Maw.
Instruments for writing [ <i>fountain pens</i> ] - -	11,671	27th April 1847	{ Marie Melanie D'Hervilly Hahnemann. Henry Petitpierre.
Manufacture of metallic pens - - - - -	12,106	27th March 1848	{ Benjamin Grey Babington. John Spurgin.
Ornamenting cylindrical and other surfaces of wood and other material [ <i>for pen holders</i> ] - - -	12,278	28th Sept. 1848	{ Joseph Gillott. John Morrison.
Construction of ever-pointed pencils - - -	12,363	21st Dec. 1848	William Riddell.
Improvements in and an addition to fountain pens -	12,681	30th June 1849	Bram Hertz.
Ever-pointed pens and penholders - - - -	13,148	24th June 1850	{ Henry Stephens. Edwyn Wylder.
Fastenings for articles used for writing, drawing, and for other purposes; articles to be used for writing and drawing.	13,151	24th June 1850	Edward Mitchell.
Application of plain or ornamental glass, alone or in combination, to new purposes of construction or manufacture [ <i>to pens and pencils</i> ].	13,456	16th Jan. 1851	Robert Cogan.
A new or improved composition or compositions; machinery for pressing or moulding the same; which machinery is also applicable to moulding or pressing other substances [ <i>suitable for making boxes for holding pens and other articles</i> ] - -	14,088	29th April 1852	{ John Hinks. Eugene Nicolle.
<b>II.—Inks, Inkstands, and Covers.</b>			
Powder for making black writing ink, by mixing with water, beer, ale, or wine.	258	7th Feb. 1688	Charles Holman.
Composition for printing and painting silk, cloth, canvas, and paper.	702	22nd July 1755	Joachim Bahre.
Composition for writing on skins, linen, or paper -	809	31st March 1764	George Cummings.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STATIONERY, &amp;c.—continued.</b>			
Making ink into a cake or solid body, which is not liable to decay or to lose its quality.	906	25th Nov. 1768	John Dring.
Ink for printing playing cards in oil colours - -	1012	7th April 1772	James Rowley.
Inkstands - - - - -	1576	14th Dec. 1786	Obadiah Westwood.
Manufacturing from leather, leather cuttings, shavings, or parings, and whit-leather, a leather for covering inkstands and ink-pots.	1723	20th Jan. 1790	Samuel Hooper.
Black writing ink, the durability of which will not be affected by time or change of climate - }	3214	4th March 1809	{ Frederick Bartholomew Folſch. William Howard.
Inkstand, containing carbonaceous and extractive matter in a dry state, from which matter ink may be formed by the addition of water.	4435	25th Jan. 1820	John Moody.
Stoppers, covers, or lids for ink-holders and other articles, or a substitute for them.	4540	3rd March 1821	Robert Burton Cooper.
Making fine light black; apparatus for the purpose [from the soot of burnt coal tar, for the purpose of making printing ink] - - - - - }	4601	24th Oct. 1821	{ Thomas Martin. Charles Grafton.
Inkstand to supply ink by means of pressure - -	5105	26th Feb. 1825	David Edwards.
Ink-holders - - - - -	5302	24th July 1826	William Johnston.
Delible ink for copy books or writing tablets - -	6182	14th Oct. 1831	{ John Smith. William Dolier.
Making and compounding printers' ink and other pigments.	6808	15th Oct. 1835	John Bird.
Screws used for fastening the mouths of mounted inkstands.	7026	8th March 1836	George Lawrence.
Inkstands or ink-holders - - - - -	7333	28th March 1837	Henry Stephens.
Rendering certain colours applicable to writing -	7341	18th April 1837	Horatio Nelson Aldrich.
Composition, called "indelible safety and durable black fluid writing ink."	7474	14th Nov. 1837	Robert Whitfield.
Inkstands - - - - -	7959	2nd Feb. 1839	Thomas Barnabas Daft.
Manufacture of inks - - - - -	8175	1st Aug. 1839	Alphonse Rene le Mire de Normandy.
Construction of vessels for containing and supplying ink and other fluids.	8532	2nd June 1840	Christopher Dain.
Inkstands or ink-holders - - - - -	8584	1st Aug. 1840	Thomas Barnabas Daft.
Preparing materials to facilitate the teaching of writing [manufacturing printing inks].	8633	17th Sept. 1840	Moses Poole.
Manufacture of ink or writing fluids - - - - -	8770	31st Dec. 1840	Henry Scott.
Construction of inkstands - - - - -	8964	22nd May 1841	William Gall.
Inkstands and ink-holders - - - - -	8996	21st June 1841	{ Paul Joseph Gauci. Alexander Bain.
Construction of inkstands - - - - -	9306	21st March 1842	Mark Freeman.
Inkstands - - - - -	9420	16th July 1842	Joseph Schlesinger.
Composition of ink - - - - -	9667	16th March 1843	Martyn John Roberts.
Manufacture of fluids to be used with paper in the manner of ink.	10,329	26th Sept. 1844	Sir George Steuart Mac- kenzie.
Improvements applicable to closing the orifice of inkholders.	11,229	28th May 1846	John Blyth.
Construction of inkstands - - - - -	11,268	29th June 1846	William Mill.
Inks; processes by which the same are manufactured; application of some of these processes to producing certain salts.	11,474	3rd Dec. 1846	Joseph Bancroft Reade.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STATIONERY, &amp;c.—continued.</b>			
Constructing inkstands - - - - -	11,554	1st Feb. 1847	Thomas Barnabas Daft.
Manufacture of printing ink - - - - -	12,226	29th July 1848	George Walter Pratt.
Process of and apparatus for treating fatty bodies; application of the products thereof to various useful purposes [ <i>using the refuse matter resulting from the distillation of fatty bodies for the production of typographical ink</i> ].	12,342	25th Nov. 1848	Pierre Armand le Comte de Fontainemoreau.
Inkstands or ink-holders - - - - -	12,363	21st Dec. 1848	William Riddell.
Manufacturing inkstands and other articles, in dies or moulds, also producing ornamental surfaces.	12,587	26th April 1849	Charles Iles.
Manufacture of inkstands and other vessels of glass - - - - -	12,905	19th Dec. 1849	{ Frederick Hale Thomson. Edward Varnish.
Preparation of materials to produce a composition for making inkstands.	13,021	23rd March 1850	Alfred Vincent Newton.
Treating fatty, oleaginous, resinous, bituminous, and cerous bodies; manufacture and application of them, and of their component and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [ <i>production of inks</i> ] - - - - -	13,081	25th May 1850	{ William Radley. Frederick Meyer.
<b>III.—Rules and Ruling</b>			
Machine for ruling paper - - - - -	983	15th June 1770	John Tetlow.
Rolling parallel ruler with or without scales - - -	985	23rd March 1771	Anthony George Eckhardt.
Machine lines for writing and drawing - - - - -	1156	9th June 1777	Joseph Fisher.
Machine for ruling paper - - - - -	6886	17th Aug. 1835	William Banks.
Machinery for ruling paper - - - - -	8676	5th June 1841	Miles Berry.
Machinery for ruling paper for various purposes -	11,526	12th Jan. 1847	John Britten.
<b>IV.—Sealing-wax, Wafers, and Seals.</b>			
Making wafer seals - - - - -	82	6th June 1635	Matthew Cox.
Making, casting, and gilding all sorts of leaden seals.	112	7th Dec. 1637	Joseph Jackson.
Manufacture of wafers - - - - -	4493	20th July 1820	John Hudswell.
Stick sealing-wax [ <i>having a small wick to keep the wax in a blaze</i> ].	5702	15th Sept. 1828	Peter Rigby Wason.
Materials and apparatus for fastening and sealing letters or other documents.	7959	2nd Feb. 1839	Thomas Barnabas Daft.
Producing surfaces to be used for printing, embossing, or impressing [ <i>producing seals for impressing on wax</i> ].	8743	17th Dec. 1840	William Tudor Mabley.
Machine for cutting wafers - - - - -	9069	8th Sept. 1841	Joseph Drew.
Manufacture of sealing-wax;—applicable to other purposes.	9153	11th Nov. 1841	Isaac Davis.
Manufacturing sealing-wax - - - - -	9324	15th April 1842	Charles Farina.
Combining materials to be used for cementing purposes, and for preventing the passage of fluids; forming or constructing articles from such compositions of materials [ <i>may be employed for making sealing wax</i> ].	9487	8th Oct. 1842	Claude Edward Deutsche.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STATIONERY, &amp;c.—continued.</b>			
Wafers; securing letters and notes from being surreptitiously opened.	10,615	15th April 1845	John Felton.
Making comfits, confectionery, and lozenges; machinery and apparatus for making the same, or any other article to which the same may be made applicable [ <i>stamping wafers</i> ].	11,211	19th May 1846	George Duncan.
Manufacture of sealing wax - - - - -	12,258	29th Aug. 1848	Elizabeth Chrees.
Manufacture of wafers; machinery connected therewith.	13,061	23rd April 1850	Peter Armand le Comte de Fontainemoreau.
Improvements applicable to the manufacture of desk or wafer seals.	13,370	30th Nov. 1850	Richard Barber.
Manufacture of wafers - - - - -	13,441	7th Jan. 1851	John Harcourt Brown.
Chemical compounds for wafers - - - - -	13,484	31st Jan. 1851	Jean Paul Gage.
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<b>V.—Bookbinding, ornamenting Books, Maps, and Slates.</b>			
Embellishing books bound in vellum, by making drawings on the vellum.	1462	28th Jan. 1785	James Edwards.
Manufacturing from leather, leather cuttings, shavings or parings, and whit leather, a leather for binding books.	1723	20th Jan. 1790	Samuel Hooper.
Binding books - - - - -	2355	4th Nov. 1799	{ John Williams. Joseph Williams.
Metallic hinge or chain, for use in the art of binding books.	2412	13th June 1800	Ebenezer Palmer.
Covering and enclosing books - - - - -	2998	22nd Dec. 1806	Anthony George Eckhardt.
Geographical slates for the construction of maps -	3147	28th June 1808	George Pocock.
Ledgers, cash books, and journals - - - - -	4190	19th Dec. 1817	Thomas Papps.
Apparatus used in manufacturing and preserving books, whether bound or unbound.	5377	1st Nov. 1825	John Isaac Hawkins.
Binding books and portfolios [ <i>rolling presses as a substitute for beating, previously to binding</i> ].	5289	10th Nov. 1825	Benjamin Cook.
Durable copy book or writing tablet - - - - -	6182	14th Oct. 1831	{ John Smith. William Dolier.
Bookbinding - - - - -	7247	7th Dec. 1836	William Hancock.
Bookbinding; partly applicable for cutting paper, and for other purposes - - - - -	7515	19th Dec. 1837	{ Christopher Nickels. Henry George Collins.
Impressing ornaments, letters, and figures on the binding of books, and on other surfaces.	9059	4th Sept. 1841	Richard Whitaker.
Bookbinding; machinery to be employed therein -	9322	15th April 1842	Thomas Richards.
Binding pamphlets, papers, and other documents -	9399	21st June 1842	Frederick Gye, jun.
Bookbinding - - - - -	10,103	14th March 1844	Frederick Stephenson.
Machine for paging books and numbering documents, consecutively or otherwise, printing words, dates, marks, numbers, or impressions.	10,543	3rd March 1845	William Shaw.
Binding and covering books, pamphlets, portfolios, writing cases, and other articles.	10,673	20th May 1845	Christopher Nickels.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of a material used in bookbinding</i> ] - - - - -	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.

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<b>STATIONERY, &amp;c.—continued.</b>			
Bookbinding, and preparing for and making alphabets for books.	11,495	15th Dec. 1846	Mark Bingley.
Manufacture of book covers - - - -	11,512	31st Dec. 1846	{ George David Myers. William Cooper. James Wansbrough.
Bookbinding - - - - -	13,166	3rd July 1850	Charles Starr.
Ornamenting woven fabrics for bookbinding - -	13,761	2nd Oct. 1851	Thomas Cussons.
Rendering woven fabrics and leather applicable to bookbinding and other uses.	13,819	19th Nov. 1851	Henri Bessemer.
Statistic and descriptive maps - - - -	13,982	27th Jan. 1852	Joseph Vincent Melchior Raymond.
Obtaining a product from the wood of the cactus [a fibrous network for various kinds of ornamentation, for producing book covers, &c.].	14,286	10th Sept. 1852	Henri François Tous-saint.
<b>VI.—Filing, folding, sealing, labelling, and securing Papers, Newspapers, Letters, and Envelopes.</b>			
Apparatus for preservation or protection of books and covers.	4938	14th April 1824	William By.
Apparatus for filing papers and other articles, and protecting them from dust or damage.	4970	15th June 1824	Robert Garbutt.
Securing, combining, and preserving papers, prints, drawings, music, or other similar matters, so as to be easily referred to, or taken asunder and replaced.	6321	12th Oct. 1835	James William Durand.
Applying letters, stamps, or marks to letters and other such documents.	8208	26th Aug. 1839	James Bogardus.
Affixing certain labels - - - - -	8882	19th June 1841	John Haughton.
Affixing certain labels - - - - -	9304	21st March 1842	John Haughton.
Instruments for filing or holding papers and other articles.	9420	16th July 1842	Joseph Schlesinger.
Card-cases - - - - -	9872	22nd Aug. 1843	Mark Freeman.
Sorting, checking, and delivering letters, newspapers, and other articles.	9884	28th Sept. 1843	George Robert D'Harcourt.
Fastening and securing letters, packets, and despatches.	10,529	20th Feb. 1845	William Stevens Villiers Sankey.
Means of securing letters and notes from being surreptitiously opened.	10,615	15th April 1845	John Felton.
Attaching postage stamps and labels [making wafers].	11,016	23rd Dec. 1845	Henry Pershouse.
Securing letters, envelope covers, despatches, packets, and parcels.	11,113	25th Feb. 1846	John Harcourt Brown.
Folding and securing letters, envelopes, and covers -	11,385	24th Sept. 1846	Charles Chinnock.
Holding together or filing, letters, music sheets, newspapers, and other documents [by a string between book-lids].	11,613	10th March 1847	John Isaac Hawkins.
Card-cases; and retaining or fastening papers, deeds, and fabrics.	11,772	29th June 1847	Thomas Young.
Folding newspapers and other papers - - -	11,832	5th Aug. 1847	Thomas Birchall.
Machinery for labelling - - - - -	13,063	23rd April 1850	Joseph Jean Baranowski.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM; STEAM-ENGINES AND BOILERS.</b>			
<b>I.—Generating and applying Steam.</b>			
Raising steam for working fire-engines - - - -	709	27th May 1756	John Wright.
Application of steam; method of using the water produced from condensed steam, and applying the water to other purposes than that of working the steam-engine.	1465	17th Nov. 1784	Sutton Thomas Wood.
Producing steam by means of a machine, to be used in engines instead of the common boiler.	1808	24th May 1791	John Roger Teschemacher.
Generating steam; application of the same to steam-engines, and for other purposes.	1843	25th March 1793	Matthew Pitts.
Conducting and generating steam; applying the same to steam-engines, and other like machines.	1950	18th April 1793	John Dale.
Raising steam or vapour from fluids - - - -	2312	1st Feb. 1798	Richard Shannon.
Apparatus for converting water and other liquids into vapour or steam, for working steam-engines.	2726	29th July 1803	Arthur Woolf.
Generating steam - - - - -	2855	31st May 1805	John Cox Stevens.
Application of steam to useful purposes; apparatus for effecting the same.	2990	22nd Nov. 1806	William Nicholson.
Application of steam for useful purposes; apparatus to effect the same.	3102	24th Aug. 1808	Thomas Price.
Application of steam and other powers to useful purposes, by means of suitable apparatus.	3465	19th July 1811	John Trotter.
Producing steam for working steam-engines and other apparatus.	4356	3rd April 1819	John Seaward.
Obtaining the power of steam for the use of steam-engines, with reduced expenditure of fuel.	4747	8th Jan. 1823	William Johnson.
Method of applying heat for producing steam, and for various other purposes, whereby the expense of fuel may be lessened.	4840	4th Sept. 1823	James Surrey.
Generating and applying steam - - - - -	4950	13th May 1824	John Theodore Paul.
Generating steam - - - - -	4974	15th June 1824	John M'Curdy.
Economical method of generating steam, applicable to steam-engines, and to other purposes.	5008	7th Oct. 1824	Pierre Alegre.
Generating steam in steam-engine boilers - -	5150	13th April 1825	{ William Gilman. James William Sowerby.
Steam-engines [ <i>generating steam</i> ] - - - -	5163	14th May 1825	John Charles Christopher Raddatz.
Producing steam, applicable to steam-engines, or to other purposes - - - - -	5192	21st June 1825	{ John Thompson. John Barr.
Apparatus for raising and generating steam - -	5270	21st Oct. 1825	Goldsworthy Gurney.
Generating steam - - - - -	5313	27th Dec. 1825	John M'Curdy.
Applying steam without pressure, to pans, boilers, coppers, stills, pipes, and machinery to regulate the temperature in boiling, distilling, evaporating, inspissating, drying and warming; also to produce power.	5323	19th Jan. 1826	Abraham Robert Lorent.
Apparatus, partly applicable to the generation of steam.	5327	7th Feb. 1826	Josias Christopher Gamble.
Apparatus for generating steam - - - - -	5344	14th March 1826	James Neville.
Engines moved by the pressure, elasticity, or expansion of steam [ <i>generating steam</i> ].	5375	6th June 1826	Robert Meikelam.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;C.—continued.</b>			
reducing steam for steam-engines, and for other purposes.	5399	2nd Aug. 1826	Joseph Browne Wilks.
Generating steam and various gases to produce motive-power; apparatus for the same, and for other purposes.	5659	31st May 1828	Samuel Hall.
Methods of converting liquids into vapour or steam - - - - -	5763	31st Jan. 1829	{ John Braithwaite. John Ericsson.
Apparatus for raising or generating steam and currents of air; application thereof to locomotive and to other purposes.	5815	8th July 1829	Moses Poole.
Apparatus for economizing steam, and for other purposes; application thereof to the boilers of steam-engines used on board packet-boats and other vessels.	6080	15th Jan. 1831	Samuel Scaward.
Generating steam - - - - -	6081	21st Feb. 1831	Samuel Dunn.
Generating steam or vapour; vessels or machinery for the purpose.	6103	2nd April 1831	James Slater.
Generating steam - - - - -	6128	2nd July 1831	Jacob Perkins.
Generating steam - - - - -	6154	27th Aug. 1831	Jacob Perkins.
Adaptation of apparatus for generating steam -	6189	15th Nov. 1831	Thomas Brunton.
Apparatus for and means of generating steam -	6503	5th Nov. 1833	Richard Holme.
Applying the steam to the common and other engines.	6727	4th Dec. 1834	William Alfred Noble.
Generating steam - - - - -	6819	23rd April 1835	John M'Curdy.
Constructing an apparatus in which combustion is carried on; also applying certain fluids to various purposes, and constructing an apparatus or vessel for the appropriation of such fluids.	6875	10th Aug. 1835	John Cooper Douglas.
Steam-generator - - - - -	7003	16th Feb. 1836	Charles Schafhautil.
Improvements applicable to generating steam -	7011	23rd Feb. 1836	François Peyre, junior.
Generating steam - - - - -	7059	12th April 1836	Jacob Perkins.
Structure and combination of apparatus employed in the generation and use of steam.	7171	13th Aug. 1836	Joshua Butters Bacon.
Application of the products of combustion in generating and aiding steam for giving motion to steam-engines.	7303	16th Feb. 1837	John Isaac Hawkins.
Generating steam - - - - -	7429	30th Sept. 1837	Jonathan Dickson.
Generating steam-power, and applying the same to ploughing, harrowing, and other agricultural purposes.	7458	4th Nov. 1837	John Upton.
Generation of steam, and application of steam or other power to navigation.	7562	8th Feb. 1838	John Melville.
Generating steam for steam-engines - - -	7566	13th Feb. 1838	William Farquhar.
Applying prepared fuel to the purpose of generating steam.	7634	5th May 1838	Thomas Joyce.
Steam-generators, applicable to locomotive and stationary uses.	7703	25th June 1838	George Holworthy Palmer.
Generating steam or vapour - - - - -	7754	30th July 1838	Samuel Hall.
Generation of steam - - - - -	7848	3rd Nov. 1838	William Morgan.
Applying heat for generating steam - - -	7851	3rd Nov. 1838	Charles Flude.
Apparatus for generating fluids - - - -	7854	6th Nov. 1838	William Henry James.
Generating steam - - - - -	7880	1st Dec. 1838	John M'Curdy.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Apparatus for generating steam - - - -	7916	20th Dec. 1838	Andrew Smith.
Apparatus for generating steam - - - -	7969	19th Feb. 1839	Richard Prosser.
Method of producing or manufacturing certain inflammable substances, and of applying the heat and light derived from certain inflammable substances to various useful purposes [ <i>employing liquid tar to heat water and generate steam</i> ].	8141	3rd July 1839	Alexander Cruikshanks.
Generating steam and elastic vapours or fluids -	8474	15th April 1840	Thomas Robinson Williams.
Generating steam - - - - -	8550	24th June 1840	{ John Aitchison. Archibald Hastie.
Generating and applying steam as a motive-power -	8583	1st Aug. 1840	William Daubney Holmes.
Application of steam to mechanical power - -	9168	9th Dec. 1841	John Hall.
Steam-generators - - - - -	9562	21st Dec. 1842	Gabriel Hippolyte Moreau.
Pyro-hydro-pneumatic apparatus, for generating and purifying steam and other vapours.	9623	31st Jan. 1843	Charles Clark.
Generating steam - - - - -	9868	15th Aug. 1843	George Bennetts.
Application of steam to steam-engines - - -	10,281	15th July 1844	Henry Davies.
Applying heat for generating steam, and for other purposes.	10,283	17th July 1844	Jacques Bidault.
Economizing and applying heat obtained from known processes [ <i>obtained from coke-ovens to generate steam in steam-engine boilers</i> ].	10,303	29th Aug. 1844	Jean Albert Palmaert.
Production and use of steam, applicable to steam-engines.	10,357	17th Oct. 1844	John Grieve.
Generating steam - - - - -	10,642	29th April 1845	Frederic Lesnard.
Generation and application of steam - - -	10,688	24th May 1845	Richard Fell.
Applying heat for generating steam - - -	10,986	10th Dec. 1845	Edward Green.
Pyro-hydro-pneumatic apparatus for generating and purifying steam and other vapours.	11,275	29th June 1846	Charles Clark.
Generating steam - - - - -	11,324	10th Aug. 1846	George Lodge.
Generating steam - - - - -	12,209	11th July 1848	Felix Alexander Testud de Beauregard.
Generating steam - - - - -	12,269	15th Sept. 1848	William Sager.
Generating steam - - - - -	12,285	12th Oct. 1848	John Wright.
Methods of and apparatus for heating and lighting, for drying substances, and for employing air in a warm and cold state for manufacturing purposes [ <i>generating steam</i> ].	12,491	28th Feb. 1849	Henry Crosley.
Generating steam - - - - -	12,633	5th June 1849	Thomas Lawes.
Steam-generator - - - - -	12,688	4th July 1849	Richard Archibald Broomman.
Treating peat and other carbonaceous and ligneous matters so as to obtain products therefrom [ <i>and constructing spirally-shaped tubular boilers or re-torts for generating steam</i> ].	12,990	7th March 1850	William Benson Stones.
Improvements partly applicable to generating steam	13,049	18th April 1850	William Hargreaves, junior.
Generating and applying steam to propelling vessels, locomotives, and stationary machinery.	13,141	19th June 1850	Ethan Baldwin.
Means and apparatus employed for generating and condensing steam for locomotive engines.	13,210	31st July 1850	Edouard Gabriel Leroy.
Generating steam in locomotive, marine, and other boilers.	13,297	24th Oct. 1850	John Oliver York.

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<b>STEAM, &amp;c.—continued.</b>			
Applying heat for generating steam for motive-power, and for other purposes.	13,388	7th Dec. 1850	Archibald Turner.
Apparatus for generating steam - - - -	13,410	12th Dec. 1850	William Beckett Johnson.
Generating steam - - - - -	13,432	28th Dec. 1850	Thomas Symes Prideaux.
Apparatus for generating steam - - - -	13,435	2nd Jan. 1851	{ John Tatham. David Cheetham.
Generating and applying steam - - - -	13,440	4th Jan. 1851	Thomas Lawes.
Apparatus for the generation of steam - - -	13,625	8th May 1851	William Edward Newton.
Apparatus for generating steam - - - -	13,959	9th Feb. 1852	William Beckett Johnson.
Generating or producing steam; machinery or apparatus connected therewith.	14,081	22nd April 1852	{ William Hindman. John Warhurst.
Method of using and rarifying steam - - -	14,259	12th Aug. 1852	{ Daniel Adamson. Leonard Cooper.
Heating; apparatus connected therewith [ <i>generating steam</i> ].	14,283	3rd Sept. 1852	William Henry James.
Application of the heat arising from kilns used in burning or calcining cement, chalk, limestone or other substance, to the generation of steam - }	14,337	23rd Oct. 1852	{ James Lamb. Joseph Menday.
Obtaining motive-power;—applicable, or partly so, to measuring and transmitting aeriform bodies and fluids [ <i>generating steam</i> ].	14,351	8th Dec. 1852	William Gorman.
<b>II.—Boilers, Coppers, and other Vessels for generating Steam.</b>			
Making and setting the vessels used in making salt, alum, coppers, &c., as well as other things where large furnaces are required.	409	14th Sept. 1716	William Ward.
Raising copper-battery in common battery-mills, cold and without cramping or nailing, for brewing-furnaces, kettles, pots, and such like articles.	462	20th Feb. 1724	Henry Hines.
Double-concave boiler with a flange, for raising steam by fire, to work atmospheric engines used for raising water, and for other purposes - - }	634	12th July 1748	{ Moses Hadley. Thomas Stephens.
Machine or stove-engine for boiling sugar, soap, or other articles which require to be boiled in large vessels, and for distilling liquors.	1051	5th Aug. 1773	John Melvill.
Machine to be used in all household purposes where boiling is required; applicable also in the operations of boiling, washing, distilling, and evaporating, in manufactories, and in mills and works where the power of steam is employed; also in heating any liquids, sand, or substance; in all which operations a considerable saving in fuel will be thereby effected." "British boiler."	1590	3rd Feb. 1787	John Reinecke.
Construction and fixing of boilers and coppers -	2162	7th Feb. 1797	John Grover.
Economical boilers for sundry purposes - - -	2302	6th April 1799	Robert Delap.
Construction of boilers for generating steam - -	2560	28th Nov. 1801	Joseph Bramah.
Setting coppers and boilers - - - - -	3101	26th Jan. 1808	Thomas Preston.
Still and boiler, constructed so as to prevent accidents by fire.	3537	4th Sept. 1813	Frank Parkinson.
Steam-boiler and apparatus for the purpose of washing, steaming, cleansing, and whitening clothing and cloth, and for warming or heating closets, laundries, and other rooms.	3790	12th March 1814	John Slater.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Construction of boilers to effect a saving of fuel and consumption of smoke.	4544	16th March 1821	Henry Browne.
Setting or fixing steam-boilers or other coppers -	4754	14th Feb. 1823	Nathaniel Partridge.
Steam-engine [constructing a steam-generator, having tubes constantly full of water].	5297	24th Nov. 1825	Joseph Eve.
Boiler for generating steam - - - - -	5344	14th March 1826	James Neville.
Steam-machinery or apparatus [boiler or steam-generator].	5429	13th Dec. 1826	John Costigin.
Cooking-apparatus [portable steam-boiler heated by a lamp].	5608	15th Jan. 1828	William Erskine Cochrane.
Construction of steam-boilers and generators -	5629	20th March 1828	Samuel Clegg.
Boiler or generator of steam - - - - -	5714	9th Oct. 1828	Thomas Tippet.
Method of converting liquids into vapour or steam } [boiler for generating steam] - - - - - }	5763	31st Jan. 1829	{ John Braithwaite. John Ericsson.
Constructing steam-boilers or generators - -	5823	1st Aug. 1829	Joshua Bates.
Steam-boilers, and mode of quickening the draught } for furnaces in connection therewith - - }	5923	30th March 1830	{ John Rawe, junior. John Boase.
Boilers, and method of increasing draught - -	5953	19th July 1830	{ John Rawe, junior. John Boase.
Boilers and generators of steam or other vapour -	6172	28th Sept. 1831	Miles Berry.
Steam-boilers - - - - -	6262	28th April 1832	Sir Charles Webb Dance.
Steam-boilers - - - - -	6364	15th Jan. 1833	Walter Hancock.
Construction of steam-boilers - - - - -	6378	29th Jan. 1833	John Linton.
Boilers or generators of steam or vapour - -	6390	21st Feb. 1833	Alexander Gordon.
Boilers for generating steam - - - - -	6449	18th July 1833	{ John Squire. Francis Macerone.
Manufacture of boilers for generating steam - -	6495	28th Oct. 1833	George Frederick Muntz.
Additions to boilers applicable to various purposes	6545	18th Jan. 1834	Jean Jacques Leopold Oberlin.
Boilers for generating steam - - - - -	6693	11th Oct. 1834	Thomas Searle.
Boilers for generating steam, and for heating water and other fluids.	6897	24th Sept. 1835	Joel Spiller.
Means of connecting metallic plates for the construction of boilers, and for other purposes.	7126	22nd June 1836	Robert Smith.
Steam-boilers - - - - -	7145	13th July 1836	Elisha Haydon Collier.
Steam-boilers;—applicable to other purposes - -	7242	3rd Dec. 1836	James Perkins.
Means of connecting metallic plates for the construction of boilers, and for other purposes.	7302	16th Feb. 1837	Robert Smith.
Improvements applicable to steam-generators -	7392	17th June 1837	James Leonard Clement Thomas.
Steam-boilers - - - - -	7417	17th Aug. 1837	William Gilman.
Construction of boilers for the generation of steam, } and for heating water or other fluids - - - }	7422	24th Aug. 1837	{ William Hearn. William Davies.
Boiler or apparatus for generating steam - -	7436	21st Sept. 1837	William Joseph Curtis.
Boilers used for the generation of steam - -	7467	11th Nov. 1837	James Slater.
Construction of boilers - - - - -	7824	8th Oct. 1838	John Bourne.
Apparatus applicable to steam-boilers - - -	7931	3rd Jan. 1839	Henry Robert Abraham.
Construction of steam-boilers - - - - -	7958	29th Jan. 1839	Frank Hills.
Steam-boilers - - - - -	7990	6th March 1839	Walter Hancock.
Boilers for generating steam - - - - -	8006	20th March 1839	{ John Ruthven. Morris West Ruthven.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Steam-boilers - - - - -	8111	17th June 1839	Henrik Zander.
Boilers for economy of fuel and heat - - -	8118	22nd June 1839	Charles Wye Williams.
Apparatus applicable to steam-boilers, to render them more safe.	8217	11th Sept. 1839	Moses Poole.
Steam-boilers or generators - - - - -	8229	27th Sept. 1839	Francis Maceroni.
Constructing boilers - - - - -	8370	31st Jan. 1840	Philippe Marie Moindron.
Steam-boilers - - - - -	8432	16th March 1840	Thomas Craddock.
Construction of steam-boilers - - - - -	8495	5th May 1840	Frank Hills.
Boilers - - - - -	8600	8th Aug. 1840	Samuel Howard.
Construction of boilers - - - - -	8703	17th Nov. 1840	Charles Wye Williams.
Construction of steam-boilers - - - - -	8813	26th Jan. 1841	Nathan Waddington.
High-pressure and other steam-boilers - - -	9037	28th July 1841	Anthony Bernhard Von Rathen.
Boilers - - - - -	9138	4th Nov. 1841	Henry King.
Construction of steam-boilers or generators - -	9159	16th Nov. 1841	John Squire.
Construction of boilers for generating steam - -	9168	9th Dec. 1841	John Hall.
Steam-boiler - - - - -	9212	11th Jan. 1842	Edward Hall.
Boilers - - - - -	9280	15th Feb. 1842	John Lewthwaite.
Boilers - - - - -	9293	10th March 1842	William Edward Newton.
Steam-boilers - - - - -	9439	9th Aug. 1842	David Napier.
Boilers - - - - -	9516	8th Nov. 1842	Henrik Zander.
Boilers, and machinery in connection therewith -	9553	9th Dec. 1842	Percival Moses Parsons.
Steam-boilers - - - - -	9580	15th Dec. 1842	James Winchester.
Steam-boilers or generators - - - - -	9584	21st Dec. 1842	John Squire.
Steam-boilers - - - - -	9684	30th March 1843	Frank Hills.
Boilers - - - - -	9699	19th April 1843	{ Charles Tayleur. James Frederick Dupré. Henry Dubs.
Construction of steam-boilers - - - - -	9706	20th April 1843	James Johnston.
Steam-boilers - - - - -	9904	27th June 1843	Richard Waller.
Construction of boilers or generators for producing steam.	9906	30th June 1843	Charles Tetley.
Boilers or apparatus for generating steam - -	9852	25th July 1843	David Napier.
Boilers - - - - -	9859	3rd Aug. 1843	{ Peter Borrie. Mayer Henry.
Boilers - - - - -	9899	5th Oct. 1843	John George Bodmer.
Steam-boilers - - - - -	10,037	8th Feb. 1844	James Johnston.
Steam-boilers - - - - -	10,107	14th March 1844	Moses Poole.
Boilers - - - - -	10,245	3rd July 1844	Octavius Henry Smith.
Boilers - - - - -	10,531	20th Feb. 1845	Samuel Hall.
Steam-boilers - - - - -	10,594	7th April 1845	John Dewrance.
Steam-boilers - - - - -	10,765	12th July 1845	Joseph Fulton Meade.
Machinery for connecting metallic plates for the construction of boilers, and for other purposes.	10,993	10th Dec. 1845	James Garforth.
Construction of steam-boilers - - - - -	11,221	26th May 1846	James Montgomery.
Setting and fixing coppers and boilers - - -	11,268	26th June 1846	Joseph Moreland.
Steam-boilers, and machinery connected therewith -	11,473	3rd Dec. 1846	Thomas Craddock.
Apparatus to be applied to steam-boilers - -	11,655	15th April 1847	Alfred Vincent Newton.
Steam-boilers - - - - -	12,080	8th March 1848	William Exall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Construction and arrangement of boilers - -	12,190	16th June 1848	George Emmott.
Steam-boilers - - - - -	12,217	18th July 1848	Joseph Stenson.
Construction and arrangement of boilers for the } generation of steam - - - - - }	12,300	26th Oct. 1848	{ James Burrows. George Holcroft.
Boilers - - - - -	12,344	29th Nov. 1848	{ John Lane. John Taylor.
Steam-boilers; apparatus connected therewith -	12,362	9th Dec. 1848	{ Andrew Lamb. William Alltoft Summers.
Methods of and apparatus for heating, and for drying substances [ <i>generating steam</i> ].	12,491	28th Feb. 1849	Henry Crosley.
Heating-apparatus, and applying hot and warm air to manufacturing and other purposes where the same are required [ <i>construction of steam-boilers</i> ].	12,517	14th March 1849	Alexander Swan.
Boilers or steam-generators - - - - -	12,577	17th April 1849	William Edward Newton.
Steam-boilers - - - - -	12,663	20th June 1849	Alexander Francis Campbell.
Steam-boilers - - - - -	12,748	23rd Aug. 1849	William Edward Newton.
Steam-boilers - - - - -	12,750	30th Aug. 1849	Thomas Symes Prideaux.
Boilers - - - - -	12,880	10th Dec. 1849	{ Jonah Davies. George Davies.
Applying metal tubes in steam-boilers or other ves- sels requiring the same.	12,935	11th April 1850	Richard Prosser.
Manufacture of boilers of malleable substances -	13,037	15th April 1850	Edmé Augustin Chameroy.
Construction and setting of steam-boilers - -	13,041	15th April 1850	{ John Turner. Joseph Hardwick.
Steam-boilers - - - - -	13,095	1st June 1850	John Tucker.
Steam-boilers - - - - -	13,138	19th June 1850	Charles Hanson.
Construction of ships' magazines [ <i>also steam-boilers or generators</i> ].	13,233	22nd Aug. 1850	William Edward Newton.
Steam-boilers or generators - - - - -	13,235	22nd Aug. 1850	William Edward Newton.
Working steam-boilers; apparatus connected there- with.	13,419	19th Dec. 1850	David Auld.
Boilers - - - - -	13,552	11th March 1851	{ William Galloway. John Galloway.
Boilers - - - - -	13,598	24th April 1851	William Andrews.
Boilers for generating steam - - - - -	13,615	3rd May 1851	Edwin Rose.
Steam-boilers - - - - -	13,641	27th May 1851	Archibald Slate.
Steam-boilers or generators - - - - -	13,691	17th July 1851	John Hick.
Boilers - - - - -	13,705	31st July 1851	Charles Cowper.
Boilers - - - - -	13,843	8th Dec. 1851	Joseph Harrison.
Construction of boilers for generating steam -	13,874	19th Dec. 1851	William Emery Milligan.
Constructing steam-boilers - - - - -	13,992	27th Feb. 1852	Charles John Mare.
Boilers for generating steam - - - - -	14,023	11th March 1852	Benjamin Goodfellow.
Steam-boilers - - - - -	14,153	3rd June 1852	Samuel Morris.
Boilers and other vessels for containing fluids -	14,182	24th June 1852	James Edward M'Connell.
Boilers - - - - -	14,189	24th June 1852	John M'Conochie.
Steam-boilers - - - - -	14,341	6th Nov. 1852	Louis Arnier.
<b>III.—Boilers for Steam-engines.</b>			
Boiler to a fire-engine - - - - -	895	8th March 1768	Joseph Hately.
Construction and hanging the boilers of steam- engines.	949	5th Jan. 1770	Dugald Clarke.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Constructing boilers for fire-engines. - - -	1058	17th Nov. 1773	Christopher Chrisel.
Boiler for use in working mechanical and other engines.	1478	9th May 1785	Joseph Bramah.
Machine or British boiler, for mills or works where the power of steam is used.	1590	3rd Feb. 1787	John Reinecke.
Constructing boilers for steam-engines - - -	1873	6th Nov. 1788	James Rumsey.
Machines to be used in engines instead of a common boiler.	1808	24th May 1791	John Roger Teechemacher.
Steam-engine boiler - - - - -	2574	23rd Jan. 1802	Richard Willcox.
Mechanical powers applicable to steam-engines [boilers for steam-engines].	2578	28th Jan. 1802	James Sharples.
Steam-engine boilers - - - - -	2698	7th April 1803	John Leach.
Making boilers for steam-engines, and for other purposes.	2858	31st May 1805	Alexander Brodie.
Setting boilers for steam-engines - - - -	3101	26th Jan. 1808	Thomas Preston.
Setting boilers of steam-engines - - - -	4007	23rd March 1816	Abraham Rogers.
Boilers of steam-engines - - - - -	4231	27th Feb. 1818	Alexander Haliburton.
Junction of tunnels in a steam-boiler, also new flues in such boiler or the furnace connected with its erection, for the purpose of lessening the consumption of fuel, the appearance of smoke, and the trouble of attendance.	4310	12th Nov. 1818	James Fraser.
Construction of boilers for propelling [improvements in boilers, by a peculiar construction and arrangement of the flues].	4462	15th May 1820	John Barton.
Apparatus for shutting fire-doors and air-flues in steam-engine boilers, drying-pans, brewing-pans, and other fire-doors and air-flues, calculated to save fuel [boiler with a self-regulating apparatus which closes the furnace in a given time after feeding].	4523	22nd Dec. 1820	William Pritchard.
Steam-carriages capable of conveying goods and passengers on common roads without horses [boilers for locomotive-carriages, formed by horizontal water-tubes passed through the furnace].	4630	20th Dec. 1821	Julius Griffith.
Boilers and condensers of steam-engines [tubular boilers].	4665	21st March 1822	Alexander Clark.
Steam-engine boilers - - - - -	4689	4th July 1822	Joseph Smith.
Construction of boilers for steam-engines - -	4712	18th Oct. 1822	{ Thomas Binns. Jonas Binns.
Steam-engines [boiler or generator] - - -	4732	10th Dec. 1822	Jacob Perkins.
Apparatus for applying steam to the boiling and concentrating of solutions, crystallizing muriate of soda from brines containing that salt, melting and refining tallow and oils, boiling of sugar, distilling, and other similar purposes [construction of a boiler with an extended flat top].	4805	19th June 1823	James Smith.
Construction of boilers for steam-engines, and for other purposes where steam is required - - }	4811	8th July 1823	{ John Fisher. John Horton.
Boiler for steam-engines and for other purposes -	4879	9th Dec. 1823	{ William Furnival. Alexander Smith.
Steam-engines or steam-engine apparatus [tubular boilers].	5032	6th Nov. 1824	John Moore.
Construction of boilers for steam-engines [formed by a series of annular tubes, which are distinct steam-chambers, but communicating with each other].	5186	14th June 1825	William Henry James.
Steam-engines [constructing the boiler with tubes, &c.]	5251	15th Sept. 1825	Jean Antoine Teissier.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Apparatus for raising and generating steam [ <i>tubular boiler</i> ].	5270	21st Oct. 1825	Goldsworthy Gurney.
Generating steam [ <i>tubular boilers</i> ] - - -	5313	27th Dec. 1825	John McCurdy.
Steam-engine boilers or steam-generators;—applicable also to the evaporation of other fluids [ <i>divided into several compartments one over the other</i> ].	5381	4th July 1826	John Poole.
Applying heat to certain useful purposes [ <i>steam-boiler</i> ]	5427	13th Dec. 1826	{ Charles Pearson, junior. Richard Witty. William Gillman.
Constructing boilers for steam-engines - - -	5447	11th Jan. 1827	James Fraser.
Construction of steam-engines [ <i>and tubular boilers</i> ]	5477	22nd March 1827	Jacob Perkins.
Machinery for propelling vessels;—applicable to other purposes [ <i>a cylindrical vessel or boiler with perpendicular tubes opening at top and bottom into the water-chamber</i> ].	5580	11th Dec. 1827	Paul Steenstrup.
Apparatus or machinery for propelling locomotive-carriages;—applicable to other purposes [ <i>boiler</i> ].	5592	21st Dec. 1827	William Harland.
Communicating heat for various purposes [ <i>boiler for evaporating or generating steam, surrounded by a bath of spirits of turpentine, acting in a vessel placed between the boiler and furnace</i> ] - - -	5609	19th Jan. 1828	{ Joshua Taylor Beale. George Richardson Porter.
Evaporating sugar [ <i>boiler for evaporating syrup</i> ] -	5718	27th Nov. 1828	William Godfrey Kneller.
Apparatus for raising or generating steam and currents of air; application thereof to locomotive engines and to other purposes [ <i>tubular boilers</i> ].	5815	8th July 1829	Moses Poole.
Apparatus for communicating heat by means of the circulation of fluids [ <i>boiler for heating air by means of vertical tubes passing through the same, for warming hothouses</i> ] - - -	5833	20th Aug. 1829	{ Henry Cruger Price. Charles Fox Price.
Boilers applicable to steam-engines and to other purposes.	5857	15th Oct. 1829	William Church.
Steam-boilers and carriages, or apparatus connected therewith [ <i>for locomotive-carriages, and heated by a gas or oil lamp</i> ].	5862	2nd Nov. 1829	James Viney.
Construction of steam-engine and other boilers or generators, applicable to propelling vessels and locomotive-carriages, and for other purposes [ <i>tubular boilers</i> ] - - -	5927	14th April 1830	{ William All'oft Summers. Nathaniel Ogle.
Boilers, and apparatus connected therewith, applicable to steam-engines and to other purposes.	5958	19th July 1830	William Taylor.
Evaporating fluids;—applicable to various purposes [ <i>boiler with a flue which passes horizontally and then descends in a spiral form</i> ].	6032	6th Nov. 1830	Joseph Gibbs.
Apparatus for propelling boats [ <i>boilers</i> ] - - -	6041	29th Nov. 1830	William Church.
Apparatus for economizing steam, and for other purposes;—application thereof to the boilers of steam-engines used on board packet-boats and other vessels.	6080	15th Jan. 1831	Samuel Seaward.
Machinery for propelling locomotive-carriages [ <i>a boiler constructed with horizontal tubular flues</i> ] -	6090	4th March 1831	{ David Napier. James Napier. William Napier.
Boiler applicable to marine and other steam-engines; apparatus connected therewith.	6161	16th Sept. 1831	George Holworthy Palmer.
Steam-boilers, and arrangement of the machinery attached thereto, as applied to land-carriages.	6421	8th May 1833	James Fraser.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Construction of vessels for sustaining the pressure of fluids; boilers and machinery of steam-engines;—application of the same to locomotive purposes.	6462	14th Aug. 1833	John Scott Russell.
Improvements in the boiler and other apparatus for locomotive-carriages - - - - - }	6465	20th Aug. 1833	{ Sir Charles Webb Dance Joshua Field.
Structure of certain boilers for producing steam for the working of steam-engines.	6482	7th Oct. 1833	Joseph Maudslay.
Boilers for steam-engines and other uses - -	6547	23rd Jan. 1834	William Thomas Yates.
Boilers of steam-engines - - - - -	6606	12th May 1834	John M'Dowall.
Boilers applicable to fixed and locomotive engines -	6616	24th May 1834	John George Bodmer.
Improvements on or additions to boilers or apparatus for producing motive-power.	6786	11th March 1835	William Hale.
Apparatus to be employed in the conveyance of goods and passengers by land [ <i>steam-engine boiler</i> ].	6791	16th March 1835	William Church.
Boilers applicable to steam-engines and other purposes.	6823	28th April 1835	Charles William Rowley Rickard.
Improvements applicable to steam-engine boilers in general.	6955	16th Dec. 1835	William Carpmæl.
Construction of boilers for steam-engines - -	7055	7th April 1836	John Holmes.
Boilers used in steam-engines - - - - -	7305	17th Feb. 1837	Henry Elkington.
Constructing and adapting boilers for marine, stationary, and locomotive engines; adapting and applying boilers to steam-vessels.	7743	26th July 1838	Joseph Price.
Steam-engine boilers - - - - -	7855	8th Nov. 1838	John Jukes.
Boilers applicable to locomotive or other engines -	8252	2nd Nov. 1839	Theobald Wahl.
Boilers for locomotive and other steam-engines, and conveying steam therefrom to the cylinders }	8377	21st Nov. 1839	{ Robert Hawthorn. William Hawthorn.
Making boilers for marine steam-engines - -	8969	25th May 1841	John Whitehouse.
Steam-engine boilers - - - - -	9260	15th Feb. 1842	John Lewthwaite.
Machinery to be used in manufacturing pipes and bars, and the application of such pipes or bars to various purposes [ <i>making iron tubes welded with a lap-over joint, to be used in the construction of steam-engine boilers</i> ] - - - - - }	9707	20th April 1843	{ Richard Prosser. Job Cutler.
Stationary steam-boilers - - - - -	10,166	30th April 1844	{ William Fairbairn. John Hetherington.
Steam-boilers - - - - -	10,558	13th March 1845	{ John Blyth. Alfred Blyth. George Parker Hubbuck
Marine and stationary steam-engines, and apparatus connected therewith [ <i>and boilers</i> ].	11,199	7th May 1846	Thomas Melling.
Steam-engine boilers - - - - -	11,207	13th May 1846	Julius Jeffreys.
Construction of carriages to be used on railways [ <i>boilers of locomotive-engines</i> ].	11,216	22nd May 1846	Hugh Greaves.
Locomotive and other engines [ <i>boilers</i> ] - - -	11,234	2nd June 1846	{ William Stubbs. John Isaiah Grylls.
Propelling carriages on railways [ <i>boilers for locomotive-engines</i> ].	11,472	2nd Dec. 1846	William Johnson.
Steam-engine boilers, and machinery connected therewith.	11,473	3rd Dec. 1846	Thomas Craddock.
Locomotive and other boilers - - - - -	11,605	3rd March 1847	{ George Fossick. Thomas Hackworth. Thomas Elliott.
Improvements applicable to the construction of tubular boilers.	11,718	27th May 1847	Alexander Allan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Construction of locomotive-engines to be used on rail or other ways [ <i>boilers</i> ].	11,740	12th June 1847	William Beckett Johnson.
Improvements applicable to locomotive-engines [ <i>boilers</i> ].	11,798	13th July 1847	Alfred Vincent Newton.
Locomotive-engines [ <i>boilers</i> ] - - - - -	11,885	7th Oct. 1847	James Pearson.
Marine steam-boilers and apparatus connected therewith.	12,064	11th Feb. 1848	The Right Honourable Thomas Earl of Dundonald.
Apparatus used in the working of steam-boilers -	12,090	8th March 1848	Alexander Alliott.
Obtaining and applying motive-power [ <i>a tubular boiler</i> ] - - - - -	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Boilers for steam-engines - - - - -	12,644	7th June 1849	Robert Wilson.
Boilers for agricultural purposes - - - - -	12,698	7th July 1849	Richard Garrett.
Steam-engines [ <i>boilers</i> ] - - - - -	12,708	18th July 1849	Evan Leigh.
Construction of marine boilers - - - - -	12,737	9th Aug. 1849	Arthur Howe Holdsworth.
Manufacture of ferrules for fixing the tubes of locomotive and other boilers.	12,745	16th Aug. 1849	Louis Lemaitre.
Pumps, and machinery for working the same;—applicable for working other machinery [ <i>constructing boilers</i> ].	12,783	20th Sept. 1849	William Edward Newton.
Tubes for locomotive and other boilers - - - -	12,812	12th Oct. 1849	James Banister.
Generating and applying motive-power [ <i>steam-boilers</i> ]	12,815	18th Oct. 1849	Ethan Campbell.
Mode of applying metal tubes in steam-boilers or other vessels requiring metal tubes to be applied within them.	13,035	11th April 1850	Richard Prosser.
Steam-engines [ <i>locomotive and other portable boilers for agricultural purposes</i> ].	13,159	3rd July 1850	Paul Rapsey Hodge.
Constructing boilers of steam-engines - - - -	13,160	3rd July 1850	Wakefield Pim.
Boilers for agricultural steam-engines - - - -	13,165	3rd July 1850	Richard Hornsby.
Steam-engine boilers - - - - -	13,831	22nd Nov. 1851	George Mills.
Boilers for agricultural steam-engines - - - -	13,836	1st Dec. 1851	William Exall.
Manufacture of steam apparatus applicable to motive purposes [ <i>steam-boilers</i> ].	13,863	27th Dec. 1851	Joseph Stenson.
Apparatus for heating and evaporating [ <i>steam-boilers</i> ] - - - - -	14,064	15th April 1852	{ Thomas Ellwood Horton. Elisha Wyld.
Obtaining and applying motive-power [ <i>applying internal steam-chambers in steam-boilers</i> ].	14,074	17th April 1852	William Hyatt.
Construction of steam-boilers;—partly applicable to marine, locomotive, and other boilers - - -	14,259	12th Aug. 1852	{ Daniel Adamson. Leonard Cooper.
<b>IV.—Supplying Boilers with Water; Water-gauges.</b>			
Apparatus for regulating the supply of water to steam-boilers, and other vessels for containing water and other liquids.	4819	24th July 1823	William Jeakes.
Method and apparatus for continually changing the water used in boilers for generating steam; particularly applicable to the boilers of steam-vessels, by preventing the deposition of substances contained in the water - - - - -	5021	14th Oct. 1824	{ Henry Maudslay. Joshua Field.
Apparatus for propelling boats [ <i>supplying water to the boiler</i> ].	6041	29th Nov. 1830	William Church.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Supplying water to the boilers of steam-engines wrought by a vacuum produced by condensation.	6204	22nd Dec. 1831	Samuel Hall.
Machinery for supplying water or other fluids to steam-boilers or evaporating vessels - - - }	7072	26th April 1836	{ William Taylor. Henry Davies.
Method of condensing steam in steam-engines, and supplying the boilers with the water thereby formed - - - - - }	7732	12th July 1838	{ Job Cutler. Thomas Gregory Hancock.
Supplying steam-boilers with hot water - - -	7851	3rd Nov. 1838	Charles Flude.
Arrangement of apparatus for regulating the supply of water to steam-boilers.	8422	10th March 1840	James Knowles.
Mode of supplying steam-boilers with water - -	9037	28th July 1841	Anthony Bernhard Von Rathen.
Methods of feeding and working boilers - - -	9516	8th Nov. 1842	Henrik Zander.
Supplying steam-boilers with water - - -	9820	31st Jan. 1843	William Robinson Shaw.
Supplying steam-boilers with water - - -	10,613	15th April 1845	John Lord.
Marine and stationary steam-engines and apparatus connected therewith [ <i>water-feeding apparatus</i> ].	11,199	7th May 1846	Thomas Melling.
Supplying water to steam-engine boilers - - -	11,315	27th July 1846	John Augustin Alexis Sauvage.
Apparatus to be applied to steam-boilers [ <i>to measure the height of the water</i> ].	11,655	15th April 1847	Alfred Vincent Newton.
Pumps, and machinery for working the same;—applicable for working other machinery [ <i>gauges for shewing the height of water in steam-boilers</i> ].	12,783	20th Sept. 1849	William Edward Newton.
Generating and applying motive-power [ <i>apparatus for feeding steam-boilers with condensed vapour previously used</i> ].	12,815	18th Oct. 1849	Ethan Campbell.
Machinery for the production of and for ornamenting fabrics and tissues generally;—partly applicable to the regulation of other machinery, and to other similar purposes [ <i>apparatus for regulating the supply of water to steam-boilers</i> ].	12,980	27th Feb. 1850	Mathew Cochran.
Supplying water to steam-boilers - - - -	13,163	3rd July 1850	Francis Edward Colegrave.
Supplying steam-boilers with water - - -	13,206	31st July 1850	Matthew Gray.
Supplying steam-boilers with water, and clearing out the tubes of steam-boilers.	13,238	22nd Aug. 1850	Richard Prosser.
Supplying boilers of steam-engines;—partly applicable to other similar purposes.	13,243	5th Sept. 1850	George Smith.
Apparatus for ascertaining and indicating the supply of water in steam-boilers.	13,870	19th Dec. 1851	Charles Howland.
Indicating the height of water in steam-boilers - -	13,878	22nd Dec. 1851	Sydney Smith.
Method of and apparatus for indicating and regulating the height and supply of water in steam-boilers;—applicable also to indicating the height and regulating the supply of water in other boilers and vessels.	14,068	17th April 1852	William Edward Newton.
Locomotive-engines;—partly applicable to other engines [ <i>apparatus for regulating the supply of water to steam-boilers</i> ].	14,176	24th June 1852	Jean Baptiste George Laudet.
Steam-boiler water-feeding apparatus - - -	14,223	15th July 1852	Charles Barrington.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
<b>V.—Cleansing and preventing Incrustation in Steam-boilers.</b>			
Method and apparatus for continually changing the water used in boilers for generating steam, particularly applicable to the boilers of steam-vessels, by preventing the deposition of substances contained in the water [ <i>as salt, when sea-water is used</i> ]	5021	14th Oct. 1824	{ Henry Maudslay. Joshua Field.
Apparatus for preventing the boilers of steam-engines and other vessels becoming foul, and for cleaning such vessels when foul.	5534	4th Aug. 1827	Anthony Scott.
Preventing incrustation of steam-boilers, generators, or evaporating vessels.	7714	30th June 1838	Augustus William Johnson.
Preventing incrustation in steam-boilers and generators.	10,395	16th Nov. 1844	Francis Watteen.
Preventing and removing incrustation in steam-boilers and steam-generators.	10,409	2nd Dec. 1844	Louis Antoine Ritterbandt.
Preventing and removing incrustation in steam-boilers.	11,347	25th Aug. 1846	Maximilian François Joseph Delfosse.
Closing tubes and preventing and removing incrustation in boilers.	12,168	30th May 1848	William Seaton.
Preventing incrustation in boilers - - - - -	12,185	13th June 1848	Joshua Taylor Beale.
Preventing incrustation in steam and other boilers -	12,592	26th April 1849	John Horsley.
Clearing out the tubes of steam-boilers - - -	13,238	22nd Aug. 1850	Richard Prosser.
Preventing incrustation of steam and other boilers -	13,322	7th Nov. 1850	Benjamin Guy Babington.
Preventing and removing incrustation in steam-boilers and generators.	13,647	29th May 1851	John Ashworth.
Preventing the incrustation of steam-boilers;—applicable to the preservation of wood and metal.	14,062	15th April 1852	Alfred Vincent Newton.
Preventing incrustation in boilers [ <i>employing hydrate of potash</i> ].	14,272	23rd Aug. 1852	Frederick Dam.
<b>VI.—Flues, Funnels, and Vent-pipes.</b>			
Constructing flues for conveying heat to steam-boilers.	2856	31st May 1805	Alexander Brodie.
Flues for steam-boilers - - - - -	4310	12th Nov. 1818	James Fraser.
Construction of flues for steam-boilers and other furnaces.	8923	6th April 1841	John Apsey.
Construction of the tubular flues of steam-boilers -	9140	6th Nov. 1841	Job Cutler.
Flues of stationary steam-boilers - - - - -	10,166	30th April 1844	{ William Fairbairn. John Hetherington.
Flues of steam-boilers - - - - -	11,260	24th June 1846	Ambrose Lord.
Steam-engine chimneys, also vent and exhaust pipes, and other like smoke and air conductors; machinery connected therewith.	11,415	15th Oct. 1846	James Kite.
Increasing the draught in chimneys of locomotive and other engines.	12,112	8th April 1848	Eugène Ablon.
Manufacturing tubular flues of locomotive and other steam-boilers.	12,114	10th April 1848	Thomas Potts.
Flues of steam-boilers - - - - -	12,300	26th Oct. 1848	{ James Burrows. George Holcroft.
Constructing funnels of steamboats and vessels -	12,737	9th Aug. 1849	Arthur Howe Holdsworth.
Constructing funnels of steam-engines - - -	13,160	3rd July 1850	Wakefield Pim.

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<b>STEAM, &amp;c.—continued.</b>			
<b>VII.—Stationary, Agricultural, and Marine Steam-engines and Apparatus.</b>			
Machine for the more extensive application of the fire-engine.	571	7th Aug. 1740	John Wise.
Fire-engine for drawing water out of mines, draining lands, and for other purposes.	730	27th Sept. 1758	James Brindley.
Fire-engine - - - - -	739	25th May 1759	Henry Wood.
Fire-engine for draining mines, coal-pits, and lands from water.	761	6th Feb. 1761	Jonathan Greenall.
Machine which performs its operations by fire, or fall of water, or both together.	848	10th June 1766	William Blakey.
Fire-engine, with boiler - - - - -	895	8th March 1768	Joseph Hatley.
Method of lessening the consumption of steam and fuel in fire-engines.	913	5th Jan. 1769	James Watt.
Pinion and rack for fire-engines where extraordinary power is required.	1115	30th Jan. 1776	Michael Searles.
Engine to work by the power of fire and steam, and to be used in iron and copper manufactories.	1276	9th Jan. 1781	George Matthews.
Steam or fire-engine for raising water, and for other mechanical purposes; mechanism applicable to the same.	1321	12th March 1782	James Watt.
Steam-engine or fire-engine - - - - -	1414	17th Jan. 1784	Robert Cameron.
Reaction machine, set in motion by fire - - -	1426	10th April 1784	Wolfgang de Kempelen.
Fire and steam engines; machines—moved by the same.	1432	28th April 1784	James Watt.
Steam-engines; also adapting and connecting the boilers used in brewing, to any engines worked by steam and air, so as to render the steam produced in such operations capable of working the said engines.	1447	20th Aug. 1784	Sutton Thomas Wood.
Improvements applicable to steam-engines, and to other purposes.	1485	14th June 1785	James Watt.
Rotatory reciprocal fire-engines for raising water, drawing coal, iron, and stone, or for other business where mechanic powers are necessary.	1493	3rd Aug. 1785	Joseph Hatley.
Improvements applicable for steam or other engines where spindles and axletrees are used, and which do not work on the centre.	1514	9th Dec. 1785	John Shankster.
Steam-engine - - - - -	1610	5th June 1787	William Symington.
Steam or fire engine, with three or more cylinders } and appendages - - - - - }	1674	6th Nov. 1788	{ Robert Fourness. James Ashworth.
Conveying the heat arising from the fires in coke ovens, and adapting the same to the working of steam-engines.	1689	23rd June 1789	The Right Honourable Henry Seymour Conway.
Engine or machine constructed on a rotative principle, and in which may be employed the power or force of steam or other fluid, for the purpose of working mills, pumps, or other machines; also when a power is applied to the axis, is rendered suitable for raising, pumping, or forcing air, water, or other fluid - - - - - }	1720	15th Jan. 1790	{ Joseph Bramah. Thomas Dickinson.
Engine to be worked by the power of steam - - -	1749	29th April 1790	John Westaway Rowe.
Engine for lessening the consumption of steam and fuel in fire-engines or steam-engines.	1760	17th July 1790	Adam Heslop.

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<b>STEAM, &amp;c.—continued.</b>			
Pneumatic fire-engines for working mills, rolling metals, raising coals, minerals, and other bodies.	1775	16th Oct. 1790	Joseph Hately.
Pendulum steam-engine, with two or more cylinders, to work upon a wheel without a crank, long beam, or lever, and applicable to raising water, working mills, increasing the power of cranes, raising anchors, and assisting the navigation of vessels.	1792	10th Feb. 1791	Isaac Manwaring.
Engine for lessening the consumption of steam and fuel in steam or fire engines.	1812	10th June 1791	James Sadler.
Reciprocating fire or steam engine for use in pumps, mills, cranes, carriages, and other purposes where the force of fire or steam is required.	1822	12th Aug. 1791	Thomas Mead.
Lessening the power of steam and of water, either separate or together, for giving motion to machines.	1825	25th Aug. 1791	James Rumsey.
Constructing a steam-engine by which may be worked mills for grinding, rolling, cutting, and turning, or any other machine that can be wrought by water, by means of a new figure called the sub-supra.	1828	6th Oct. 1791	James Summers.
Engine in place of a steam-engine, to be worked without fire, wind, or water, and with or without a horse.	1839	26th Nov. 1791	Robert Davison.
Steam-engine - - - - -	1867	18th April 1792	{ Matthew Pitts. Thomas Strode.
Steam-engine - - - - -	1884	25th May 1792	Francis Thompson.
Steam-engine for draining and working mines, working mills, turning wheels, or raising water.	1910	18th Oct. 1792	William Williamson.
Machine to be wrought by air and water, or air, fire, and water.	1929	22nd Dec. 1792	Thomas Parker.
Steam-engines - - - - -	1943	25th March 1793	Matthew Pitts.
Working steam-engines - - - - -	2123	28th June 1796	William Batley.
Construction, working, and application of steam-engines.	2202	11th Nov. 1797	Edmund Cartwright.
Constructing steam-engines and other machines -	2249	14th July 1798	John Dickson.
Construction of steam-engines - - - - -	2261	27th Aug. 1798	Gregorio Francisco Queiroz.
Improvements on the steam-engine, for the purpose of saving fuel, lessening the expense of erecting steam-engines, and producing a more steady motion than by any means at present practised.	2327	16th July 1799	Matthew Murray.
Manufacturing and constructing steam-engines -	2340	29th Aug. 1799	William Murdoch.
Applying steam in the working of steam-engines -	2437	13th Aug. 1800	{ John Robertson. James Robertson.
Framing, combining, and organizing the parts and mechanism of steam-engines.	2471	5th Feb. 1801	Edmund Cartwright.
Fire or steam engine - - - - -	2493	30th April 1801	Richard Willcox.
Steam-engines - - - - -	2501	14th May 1801	William Hase.
Constructing the air-pump and other parts of steam-engines, so as to increase the power and save fuel.	2531	11th Aug. 1801	Matthew Murray.
Constructing steam engines - - - - -	2544	14th Oct. 1801	William Symington.
Construction of steam-engines - - - - -	2560	28th Nov. 1801	Joseph Bramah.
Mechanical powers applicable to steam-engines [steam or other power engine].	2576	28th Jan. 1802	James Sharples.
Construction of steam-engines - - - - -	2599	24th March 1802	{ Richard Trevithick. Andrew Vivian.

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<b>STEAM, &amp;c.—continued.</b>			
Steam-engine for producing circular powers - -	2632	28th June 1802	Matthew Murray.
Increasing the effect of steam-engines, and saving fuel in the working thereof.	2670	21st Dec. 1802	Thomas Saint.
Construction of steam-engines - - - -	2741	17th Nov. 1803	William Freemantle.
Construction of steam-engines - - - -	2772	7th June 1804	Arthur Woolf.
Steam-engine - - - - -	2835	26th March 1805	Job Rider.
Constructing and working steam-engines - -	2836	26th March 1805	Willis Earle.
Steam-engines - - - - -	2863	2nd July 1805	Arthur Woolf.
Steam-engines - - - - -	2878	2nd Sept. 1805	William Deverell.
Steam-engines - - - - -	2887	30th Oct. 1805	Samuel Miller.
Machine that may be used as a steam-engine -	2892	16th Nov. 1805	Andrew Flint.
Construction of steam-engines - - - -	3050	13th June 1807	Henry Maudalay.
Steam-engines - - - - -	3140	3rd June 1808	Thomas Smith.
Making and constructing circular or rotative steam-engines.	3163	24th Aug. 1808	Thomas Mead.
Construction and working of steam-engines - -	3243	15th June 1809	John Philip Fesenmeyer.
Rotative engine worked by steam, for raising water, grinding corn, and for other useful purposes.	3256	9th Aug. 1809	Edward Lane.
Method whereby heated water, steam, and air can be rendered serviceable for new purposes and every purpose for which they have ever been applied, with less expense of fuel than is now used, especially for working the steam-engine.	3280	28th Nov. 1809	William Cornelius English.
Steam-engine - - - - -	3289	14th Dec. 1809	Mark Noble.
Steam-engine - - - - -	3299	1st Feb. 1810	Stedman Adams.
Making, arranging, and combining certain parts of rotative steam-engines, so as to dispense with the most complex parts of steam-engines as now used; applicable to giving motion to all sorts of machinery.	3305	14th Feb. 1810	Richard Witty.
Construction and working of steam-engines - -	3346	9th June 1810	Arthur Woolf.
Construction of steam-engines - - - -	3497	30th Oct. 1811	Richard Witty.
Constructing steam-engines - - - - -	3506	2nd Nov. 1811	Charles Broderip.
Machine to be wrought by steam or other power -	3524	23rd Jan. 1812	William Onions.
Steam-engines, and apparatus to be used with the same - - - - -	3621	10th Dec. 1812	{ Robert Were Fox, junior. Joel Lean, junior.
Working fire-engines with less consumption of steam and fuel.	3645	30th Jan. 1813	Robert Dunkin.
Steam-engines, and tools useful in making parts of the same.	3707	5th June 1813	Richard Witty.
Construction and application of steam-engines -	3745	1st Nov. 1813	John Barton.
Steam-engines - - - - -	3768	14th Dec. 1813	Joseph White.
Steam and fire engine - - - - -	3793	23rd March 1814	William Alfred Noble.
Steam-engine - - - - -	3799	1st April 1814	John U. Rastrick.
Steam-engine, with appendages thereto - - -	3817	18th June 1814	Thomas Tindall.
Steam-engines - - - - -	3908	20th April 1815	Michael Billingsley.
High-pressure steam-engines; and application thereof, with or without other machinery, to useful purposes.	3922	6th June 1815	Richard Trevithick.
Steam-engines;—partly applicable to other purposes.	3980	6th Feb. 1816	John Thomas Dawes.

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<b>STEAM, &amp;c.—continued.</b>			
Engine to be worked by steam or other power -	4017	11th April 1816	William Stenson.
Metallic engine to work either by steam or water; "Bodley's improved engine."	4019	27th April 1816	George Bodley.
Steam-engines for drawing water from mines, for working different kinds of machinery, and for other purposes.	4075	1st Nov. 1816	Simon Hosking.
Steam-engines - - - - -	4127	22nd May 1817	George Manwaring.
Steam-engines - - - - -	4187	15th Dec. 1817	Moses Poole.
Steam-engines - - - - -	4193	15th Jan. 1818	William Moulton.
Steam-engines - - - - -	4226	12th Feb. 1818	John Munro.
Steam-engines - - - - -	4231	27th Feb. 1818	Alexander Haliburton.
Rotative steam-engine - - - - -	4292	27th Feb. 1818	Joshua Routledge.
Steam-engine - - - - -	4245	8th April 1818	William Church.
Steam-engines - - - - -	4256	7th May 1818	{ Thomas Jones. Charles Plimley.
Steam-engine - - - - -	4286	5th Aug. 1818	John Malam.
Constructing steam-engines - - - - -	4298	19th Oct. 1818	Sir William Congreve.
Construction of steam-engines, and the subsequent use of steam.	4311	14th Nov. 1818	Richard Wright.
Improvements applicable to steam-engines, and to other purposes.	4325	24th Dec. 1818	William Johnson.
Steam-engines - - - - -	4387	29th June 1819	William Brunton.
Making and constructing steam-engines - -	4471	3rd June 1820	John Hague.
Machinery which may be worked by steam as a moving power.	4516	9th Dec. 1820	John Moore.
Steam-engines - - - - -	4517	11th Dec. 1820	William Carter.
Steam-engines and other machinery where the crank is used [substitute for the crank by pinion and reciprocating rack].	4534	3rd Feb. 1821	William Aldersey.
Steam-engines - - - - -	4537	20th Feb. 1821	Robert Stein.
Making steam-engines - - - - -	4558	9th May 1821	Aaron Manby.
Steam-engines or apparatus - - - - -	4578	4th Aug. 1821	Thomas Bennett.
Constructing steam-engines - - - - -	4593	28th Sept. 1821	Sir William Congreve.
Facilitating conveyance of carriages along iron and wood railways, tramways, and other roads [by stationary steam-engines].	4602	24th Oct. 1821	Benjamin Thompson.
Steam-engines [parallel motion for] - - -	4606	9th Nov. 1821	Franz Anton Egells.
Construction of steam-engines - - - - -	4622	5th Dec. 1821	Charles Broderip.
Steam-engines - - - - -	4662	21st March 1822	George Stephenson.
Steam-engines - - - - -	4683	26th June 1822	Marc Isambard Brunel.
Steam-engines - - - - -	4708	27th Sept. 1822	{ Thomas Timothy Beningfield. Joshua Taylor Beale.
Construction of steam-engines; applicable to propelling vessels - - - - -	4712	18th Oct. 1822	{ Thomas Binns. Joseph Binns.
Steam-engines, by the application of steam immediately to a wheel instead of the usual process.	4716	25th Oct. 1822	Thomas Leach.
Steam-engines - - - - -	4732	10th Dec. 1822	Jacob Perkins.
Rotatory steam-engines - - - - -	4738	16th Dec. 1822	John Bainbridge.



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<b>STEAM, &amp;c.—continued.</b>			
Rotatory engine, for the purpose of communicating motion by means of steam or other gaseous medium [ <i>wheel impelled by jets issuing from the sides of its arms</i> ].	4793	27th May 1823	Thomas Peck.
Steam-engines - - - - -	4800	5th June 1823	Jacob Perkins.
Steam-engines, such as condense out of the cylinder, by which improvements the air-pump is rendered unnecessary [ <i>by using a stream of cold water</i> ] - - - - -	4824	31st July 1823	{ Joseph Bower. John Bland.
Steam-engines [ <i>with heavy pistons, which float in mercury</i> ].	4829	11th Aug. 1823	William Wigston.
Construction of machinery for propelling, and also for giving motion to other machinery [ <i>steam-engines</i> ].	4904	19th Feb. 1824	The Rev. Moses Isaacs.
Steam-engines - - - - -	4935	8th April 1824	Samuel Hall.
Steam-engines - - - - -	4948	1st May 1824	George Vaughan.
Steam-engines - - - - -	4983	3rd July 1824	Philip Taylor.
Construction of steam-engines - - - - -	5004	7th Oct. 1824	Walter Foreman.
Steam-engines or steam-engine apparatus - - -	5032	6th Nov. 1824	John Moore.
Steam-engine, or apparatus connected therewith;—also applicable to other useful purposes.	5086	11th Jan. 1825	Alexander Tilloch.
Engines to be worked by steam or other elastic fluids - - - - -	5150	13th April 1825	{ William Gilman. James William Sowerby.
Steam-engines - - - - -	5163	14th May 1825	John Charles Christopher Raddatz.
Improvements applicable to steam-engines or other purposes.	5192	21st June 1825	John Barr.
Steam-engines - - - - -	5251	15th Sept. 1825	Jean Antoine Teissier.
Engine to be called or denominated "Vapour-engine" [ <i>worked by ether</i> ].	5262	13th Oct. 1825	Thomas Howard.
Construction of steam-engines - - - - -	5271	21st Oct. 1825	Lemuel Wellman Wright.
Steam-engine - - - - -	5297	24th Nov. 1825	Joseph Eve.
Machinery to be operated upon by steam - - -	5308	9th Dec. 1825	Francis Halliday.
Steam-engines - - - - -	5356	6th May 1826	{ Arnold Buffum. John M-Curdy.
Construction of rotary steam-engines, and apparatus connected therewith.	5372	23rd May 1826	Louis Joseph Marie, Marquis de Cambis.
Engines moved by the pressure, elasticity, or expansion of steam.	5375	6th June 1826	Robert Meikellam.
Steam-machinery or apparatus [ <i>rotatory and reciprocating steam-engines</i> ].	5429	13th Dec. 1826	John Costigin.
Engines to propel carriages by steam or other suitable power.	5438	20th Dec. 1826	Frederick Andrews.
Rotary steam-engine - - - - -	5444	29th Dec. 1826	Elijah Galloway.
Combination of machinery to supersede the crank in steam-engines.	5453	1st Feb. 1827	Robert Barlow.
Construction of steam-engines - - - - -	5477	22nd March 1827	Jacob Perkins.
Steam-engines - - - - -	5514	4th July 1827	Walter Hancock.
Construction of an engine worked by steam [ <i>revolving steam-engine</i> ].	5529	1st Aug. 1827	Thomas Peck.
Steam-engines - - - - -	5531	1st Aug. 1827	Joseph Maudslay.
Steam-engine [ <i>with an oscillating cylinder</i> ] - - -	5535	4th Aug. 1827	Peter Burt.

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<b>STEAM, &amp;c.—continued.</b>			
Steam-engines [ <i>working parts</i> ] - - - -	5603	15th Jan. 1828	John Evans.
Construction of steam-engines - - - -	5629	20th March 1828	Samuel Clegg.
Construction and mode of working engines with steam and air.	5714	9th Oct. 1828	Thomas Tippet.
Construction of steam-engines; apparatus connected therewith.	5719	29th Nov. 1828	Joseph D'Arcy.
Rotatory steam-engines - - - -	5724	4th Dec. 1828	George Rennollson.
Application of elastic and dense fluids to the propelling of machinery of various descriptions [ <i>engine worked by gas or other elastic vapour</i> ].	5786	15th Dec. 1828	Richard Williams.
Piece of machinery to combine with parts of the steam-engine or other engines, such as pumps, fire-engines, water-wheels, air-pumps, condensers, and blowing-engines.	5755	14th Jan. 1829	Thomas Smith.
Steam-engine [ <i>two cylinders working under different pressures</i> ].	5757	14th Jan. 1829	John Udney.
Steam-engines, and machinery connected therewith	5765	3rd Feb. 1829	Julius Pumphrey.
Machinery to be worked by fluids - - - -	5784	28th April 1829	{ Peter Pickering. William Pickering.
Steam-engines - - - -	5805	2nd July 1829	Elijah Galloway.
Steam-engines - - - -	5855	30th Sept. 1829	Thomas Banks.
Steam-engines [ <i>Watts' steam-wheel improved</i> ] -	5910	27th Feb. 1830	William Grisenthwaite.
Steam-engines - - - -	5942	11th June 1830	William Tustin Haycraft.
Rotary-engine to be impelled by steam - - -	6036	11th Nov. 1830	Sir Thomas Cochrane, Kn <sup>t</sup> .
Steam-engines - - - -	6075	14th Feb. 1831	William Morgan.
Steam-engine - - - -	6082	21st Feb. 1831	Richard Trevithick.
Steam-engines - - - -	6089	28th Feb. 1831	Richard Williams.
Apparatus rendered applicable to steam-engines -	6106	14th April 1831	Thomas Brunton.
Machine to be worked by steam, that may be applied for the moving of ships, boats, and barges on the water, and to carriages either on the road or tramways; and in a fixed position may be applied to all the purposes that steam-engines are now used for.	6120	24th May 1831	Samuel Hobday.
Steam-engines - - - -	6134	13th July 1831	Moses Poole.
Steam-engine and machinery connected therewith; applicable to propelling vessels and carriages, and for other purposes.	6161	16th Sept. 1831	George Holworthy Palmer.
Engines to be worked by steam or vapour for propelling or actuating machinery on land, and boats, vessels, or other floating bodies on water; also mode of condensing the steam or vapour.	6172	28th Sept. 1831	Miles Berry.
Piston for steam and other engines - - - -	6204	22nd Dec. 1831	Samuel Hall.
Apparatus partly applicable to the purposes of steam-engines.	6220	9th Feb. 1832	William Church.
Steam-engines - - - -	6227	23rd Feb. 1832	Joshua Taylor Beale.
Steam-engines - - - -	6252	28th March 1832	Joshua Taylor Beale.
Steam-engines - - - -	6258	13th April 1832	Richard Roberts.
Steam-engines - - - -	6277	9th June 1832	William Brown.
Application of steam-power to locomotion [ <i>applying apparatus to a locomotive-engine</i> ].	6308	22nd Sept. 1832	Richard Trevithick.
Steam-engines - - - -	6322	18th Oct. 1832	David Redmund.

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<b>STEAM, &amp;c.—continued.</b>			
Steam-engines [ <i>principally marine</i> ] - - - -	6320	7th Nov. 1832	Elijah Galloway.
Vapour-engine, and the application of a part or parts thereof, with certain additions or improvements, to steam-engines.	6339	29th Nov. 1832	Thomas Howard.
Engine and apparatus to be worked by steam and other motive-power.	6357	9th Jan. 1833	John Reynolds.
Steam-engines - - - - -	6376	29th Jan. 1833	Edwin Appleby.
Engines to be worked by steam, for actuating machinery.	6390	21st Feb. 1833	Alexander Gordon.
Steam-engine - - - - -	6393	28th Feb. 1833	John Thompson.
Steam-engine on the rotary principle - - -	6419	7th May 1833	Robert Stein.
Steam-engines - - - - -	6452	25th July 1833	John Petrie.
Machinery applicable to the ordinary purposes of steam-engines.	6469	7th Sept. 1833	William Church.
Parts of steam-engines - - - - -	6503	5th Nov. 1833	Richard Holme.
Improvements partly applicable to steam-engines -	6550	25th Jan. 1834	Benjamin Hick.
Steam-engines - - - - -	6556	13th Feb. 1834	Samuel Hall.
Steam-engines - - - - -	6573	13th March 1834	William Morgan.
Steam-engines - - - - -	6600	26th April 1834	Ernst Wolf.
Steam-engines - - - - -	6616	24th May 1834	John George Bodmer.
Construction and adaptation of metallic packages } for pistons of steam-engines and other purposes }	6638	4th July 1834	{ Benjamin Hick. Edward Evans, senior. John Higgins.
Certain engines to be worked by steam - - -	6666	23rd Aug. 1834	Robert Stein.
Improvements partly applicable to steam-engines -	6689	8th Oct. 1834	Benjamin Hick.
Construction of steam-engines - - - - -	6695	17th Oct. 1834	Samuel Seaward.
Steam-engine - - - - -	6712	13th Nov. 1834	Jean Michel Cramer.
Steam-engine - - - - -	6720	25th Nov. 1834	Alexander Craig.
Steam-engines;—applicable to other purposes -	6735	23rd Dec. 1834	Elijah Galloway.
Steam-engines - - - - -	6753	27th Jan. 1835	William Morgan.
Steam-engines - - - - -	6770	25th Feb. 1835	James Aldous.
Steam-engine (simplified and economical);—may be used for other purposes.	6777	27th Feb. 1835	Joshua Taylor Beale.
Improvements partly applicable to steam-engines and other steam-apparatus.	6791	16th March 1835	William Church.
Marine steam-engines;—applicable to steam-engines for other purposes.	6801	28th March 1835	Francis Humphreys.
Construction of rotary steam-engines - - -	6808	8th April 1835	Miles Berry.
Manufacture of steam-engines - - - - -	6873	7th Aug. 1835	William Mason.
Steam-engines - - - - -	6889	24th Aug. 1835	William Lucy.
Improvements partly applicable to motive machinery whether actuated by steam or other motive-power.	6925	7th Nov. 1835	William Symington.
Improvements partly applicable to steam-engines -	6955	16th Dec. 1835	William Carpmæl.
Steam-engines - - - - -	7027	8th March 1836	James Diggle.
Steam-engines - - - - -	7031	14th March 1836	Edward Jełowicki.
Steam-engines - - - - -	7059	12th April 1836	Jacob Perkins.
Machinery for obtaining mechanical power by the aid of steam [ <i>steam-engine</i> ] - - - - }	7072	26th April 1836	{ William Taylor. Henry Davies.
Steam-engines - - - - -	7084	7th May 1836	John Elvey.
Steam-engines - - - - -	7096	17th May 1836	David Fisher.
Rotary steam-engine - - - - -	7101	23rd May 1836	Henry Elkington.

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<b>STEAM, &amp;c.—continued.</b>			
Rotary steam-engine;—applicable to other purposes	7119	15th June 1836	John White.
Steam-engines, and working parts thereof;—partly applicable to other purposes.	7135	24th June 1836	Samuel Hall.
Improvements partly applicable to steam-engines, and for other purposes - - - - - }	7191	22nd Sept. 1836	{ Henry Van Wart. Samuel Aspinwall Goddard.
Steam-engines - - - - -	7233	22nd Nov. 1836	Timothy Hackworth.
Steam-engines;—partly applicable to other purposes	7242	3rd Dec. 1836	Jacob Perkins.
Stationary steam-engines - - - - -	7254	15th Dec. 1836	John Melling.
Steam-engines - - - - -	7295	2nd Feb. 1837	William Geeves.
Steam-engines - - - - -	7298	16th Feb. 1837	William Boarder.
Improvements applicable to marine and stationary steam-engines.	7301	16th Feb. 1837	Richard Burch.
Steam-engines - - - - -	7305	17th Feb. 1837	Henry Elkington.
Steam-engines - - - - -	7308	21st Feb. 1837	John Hardman.
Steam-engines and other mechanism of steamboats -	7323	15th March 1837	Neil Snodgrass.
Improvements applicable to steam-engines and steam-generators; having for its object the economy of fuel.	7392	17th June 1837	James Leonard Clement Thomas.
Stationary steam-engines - - - - -	7410	26th July 1837	John Melling.
Engines to be actuated by steam or other power -	7417	17th Aug. 1837	William Gillman.
Steam-engines - - - - -	7437	28th Sept. 1837	{ Thomas Simmons Mac- kintosh. William Angus Robert- son.
Steam-engines - - - - -	7439	30th Sept. 1837	Jonathan Dickson.
Steam-engines - - - - -	7445	14th Oct. 1837	Antonin Pieux de Rigel.
Steam-engines - - - - -	7453	2nd Nov. 1837	Joseph Whitworth.
Steam-engines - - - - -	7467	11th Nov. 1837	James Slater.
Steam-engines and apparatus connected therewith, particularly applicable to marine engines.	7512	19th Dec. 1837	John Gray.
Steam-engines - - - - -	7526	4th Jan. 1838	William Retland Izon.
Steam-engines - - - - -	7542	13th Jan. 1838	George Chapman.
Engines to be worked by steam or other fluids -	7554	27th Jan. 1838	Matthew Heath.
Marine and other steam-engines - - - - -	7557	30th Jan. 1838	John Barnett Humphreys.
Steam-engine - - - - -	7568	16th Feb. 1838	John Ericsson.
Steam-engines and apparatus connected therewith -	7586	8th March 1838	William Hale.
Steam-engines - - - - -	7588	10th March 1838	John Seaward.
Rotary engines to be worked by steam or other aeriform fluids.	7597	19th March 1838	Duchemin Victor.
Steam-engines - - - - -	7646	21st May 1838	Samuel Seaward.
Steam-engines - - - - -	7665	31st May 1838	Thomas Walker.
Engines or machines to be used for obtaining mechanical power [ <i>steam-engines</i> ].	7698	14th June 1838	Henry Davics.
Steam-engines - - - - -	7699	14th June 1838	Joseph Bunnett.
Steam-engines; applicable to stationary and locomotive uses.	7703	25th June 1838	George Holworthy Palmer.
Engines to be worked by steam or other fluids -	7721	6th July 1838	Henry Elkington.
Apparatus partly applicable to land or stationary engines - - - - - }	7730	11th July 1838	{ Henry Van Wart. Samuel Aspinwall Goddard.

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<b>STEAM, &amp;c.—continued.</b>			
Steam-engines and apparatus connected therewith, particularly applicable to marine-engines for propelling boats or vessels, and partly applicable to locomotive or stationary steam-engines, and to other purposes.	7745	26th July 1838	John Gray.
Steam-engines - - - - -	7754	30th July 1838	Samuel Hall.
Steam-engines - - - - -	7782	23rd Aug. 1838	George Dickinson.
Apparatus used with steam-engines, parts of which are applicable to water-power.	7797	6th Sept. 1838	Timothy Burstall.
Improvements partly applicable to steam-engines -	7800	8th Sept. 1838	James Ulric Vaucher.
Engines useful as steam-engines, pumps, or propellers of vessels or machinery.	7813	13th Sept. 1838	Sir Hugh Pigot.
Steam-engines - - - - -	7824	8th Oct. 1838	John Bourne.
Engines to be actuated by fluids - - - - -	7854	6th Nov. 1838	William Henry James.
Improvements applicable to steam-engines and other purposes.	7890	1st Dec. 1838	John MacCurdy.
Rotatory engines to be worked by steam or other fluids.	7925	4th Jan. 1839	Miles Berry.
Engines to be worked by steam or other fluids -	7938	15th Jan. 1839	William Whitham.
Steam-engines - - - - -	7952	29th Jan. 1839	{ John Howard Kyan. William Hyatt.
Rotatory steam-engines - - - - -	7988	6th March 1839	John Dickson.
Steam-engine applicable to marine and stationary purposes.	8015	26th March 1839	Edmund Butler Rowley.
Bearings of steam-engines;—applicable to bearings of machinery in general.	8023	9th April 1839	James Nasmyth.
Engines to be worked by steam or other motive-power - - - - -	8031	13th April 1839	{ Joseph Gillott. Thomas Walker.
Steam-engines - - - - -	8045	23rd April 1839	Elijah Galloway.
Construction of marine steam-engines - - - - -	8060	7th May 1839	{ Joseph Maudslay. Joshua Field.
Steam-engines - - - - -	8111	17th June 1839	Henrik Zander.
Steam-engines, certain parts of which are applicable to steam-engines of ordinary construction.	8121	22nd June 1839	Matthew Punshon.
Steam-engines - - - - -	8130	25th June 1839	John Arrowsmith.
Steam-engine, particularly applicable to locomotive purposes and steam navigation.	8146	6th July 1839	John Ericsson.
Steam-engine, or steam-engine apparatus - - -	8185	5th Aug. 1839	John Moore.
Rotatory engines worked by steam and other fluids	8239	10th Oct. 1839	John Swain Worth.
Marine steam-engines - - - - -	8259	7th Nov. 1839	James Murdoch.
Rotatory engines to be actuated by steam or water -	8315	16th Dec. 1839	{ Monnin Japy. Constant Jouffroy Dumery.
Steam-engines - - - - -	8365	28th Jan. 1840	Henry Curzon.
Steam-engines - - - - -	8425	11th March 1840	Thomas Peet.
Rotary engines worked by steam or other fluids -	8431	16th March 1840	Jean François Victor Fabien.
Steam-engines - - - - -	8432	16th March 1840	Thomas Craddock.
Construction of steam-engines - - - - -	8436	17th March 1840	Samuel Seaward.
Steam-engines - - - - -	8463	2nd April 1840	James Stead Crosland.
Steam-engines - - - - -	8482	23rd April 1840	Elijah Galloway.
Construction of steam-engines - - - - -	8495	5th May 1840	Frank Hills.



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<b>STEAM, &amp;c.—continued.</b>			
Steam-engines - - - - -	8504	12th May 1840	Henry Dircks.
Steam-engines - - - - -	8561	6th July 1840	Edwin Turner.
Steam-engines - - - - -	8564	10th July 1840	Joshua Taylor Beale.
Steam-engines - - - - -	8576	29th July 1840	Robert Urwin.
Steam-engines - - - - -	8583	1st Aug. 1840	William Daubney Holmes.
Rotary engines worked by steam, smoke, gases, or heated air, mode of applying such engines to useful purposes.	8591	5th Aug. 1840	Colin Macrae.
Steam-engines - - - - -	8630	10th Sept. 1840	James Pilbrow.
Steam-engines for actuating machinery - - -	8632	17th Sept. 1840	{ Henry Fourdrinier. Edward Newman Fourdrinier.
Steam-engines - - - - -	8636	21st Sept. 1840	William Mill.
Making and working steam-engines - - -	8694	12th Nov. 1840	{ Thomas William Parkin. Elisha Wylde.
Engines to be actuated by steam or other elastic fluid.	8791	14th Jan. 1841	Charles Cameron.
Steam-engine used for propelling vessels - -	8845	15th Feb. 1841	{ James Whitelaw. George Whitelaw.
Steam-engines - - - - -	8849	16th Feb. 1841	William Samuel Henson.
Arrangement and combination of certain parts of steam-engines to be used for steam navigation.	8881	16th March 1841	Joseph Maudslay.
Steam-engines - - - - -	8942	29th April 1841	James Sims.
Machinery partly applicable to steam-engines on land.	8981	10th June 1841	John George Bodmer.
Steam-engines - - - - -	8990	18th June 1841	Thomas Walker.
Engines to be worked by steam or vapours - -	9027	13th July 1841	Benjamin Beale.
Arrangement and construction of engines to be worked by the force of steam or other fluids.	9031	21st July 1841	Andrew Smith.
Steam-engines - - - - -	9046	13th Aug. 1841	{ John Seaward. Samuel Seaward.
Steam-engines - - - - -	9050	21st Aug. 1841	John Thomas Carr.
Construction and arrangement of steam-engines -	9072	8th Sept. 1841	William Fairbairn.
Arrangement and combination of parts of steam-engines for steam navigation.	9107	29th Sept. 1841	Joseph Miller.
Steam-engines - - - - -	9118	7th Oct. 1841	John Jones.
Engines to be worked by vapour or steam - -	9118	14th Oct. 1841	William Newton.
Construction and arrangement of parts of marine and stationary steam-engines.	9125	21st Oct. 1841	Thomas Jones.
Steam-engines - - - - -	9138	4th Nov. 1801	Henry King.
Steam-engines - - - - -	9191	16th Dec. 1841	Charley Loosey.
Condensing steam-engines - - - - -	9192	16th Dec. 1841	John Bould.
Steam-engines - - - - -	9216	11th Jan. 1842	John Tresahar Jeffree.
Working of steam-engines - - - - -	9221	13th Jan. 1842	Joseph Barnes.
Steam-engines - - - - -	9239	27th Jan. 1842	Pierre Journet.
Steam-engines - - - - -	9260	15th Feb. 1842	John Lewthwaite.
Steam-engines - - - - -	9261	15th Feb. 1842	{ Thomas Russell Crampton. John Coope Haddan.
Steam-engines - - - - -	9293	10th March 1842	William Edward Newton.
Engine to be worked by steam or vapours - -	9321	15th April 1842	John Lamb.

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<b>STEAM, &amp;c.—continued.</b>			
Steam-engines - - - - -	9336	28th April 1842	{ John Varley. Edmondson Varley.
Steam-engines - - - - -	9354	23rd May 1842	James Pilbrow.
Construction of steam-engines - - - - -	9381	7th June 1842	John Woodcock.
Machinery applicable as an engine, to be worked by steam, for propelling vessels and for other purposes.	9411	7th July 1842	John Bird.
Steam-engines - - - - -	9439	9th Aug. 1842	David Napier.
Steam-engines, and methods of feeding and of working the same.	9516	8th Nov. 1842	Henrik Zander.
Steam-engines - - - - -	9551	8th Dec. 1842	James Brown.
Steam-engines and motive machinery connected therewith.	9553	9th Dec. 1842	Percival Moses Parsons.
Method of applying steam or other power to locomotive purposes.	9560	15th Dec. 1842	James Winchester.
Steam-engines - - - - -	9583	11th Jan. 1843	James Harvey.
Rotatory engines, and apparatus connected with steam-engines.	9593	19th Jan. 1843	Thomas Earl of Dundonald.
Steam-engines - - - - -	9655	3rd March 1843	Alexander Connison.
Rotary steam-engines - - - - -	9676	25th March 1843	Nicolas Henri Jean Francois, Comte de Crouy.
Steam-engines - - - - -	9691	7th April 1843	{ Robert Hawthorne. William Hawthorne.
System of connection for working the cranks of direct action steam-engines.	9700	19th April 1843	James Byrom.
Marine engines and stationary engines - - - - -	9703	20th April 1843	John George Bodmer.
Construction of steam-engines - - - - -	9803	27th June 1843	Charles Townsend Christian.
Steam-engines - - - - -	9804	27th June 1843	Richard Waller.
Steam-engines - - - - -	9810	1st July 1843	James Lancaster Lucena.
Construction of steam-engines - - - - -	9829	10th July 1843	Jacob Samuda.
Double-centred steam-engine - - - - -	9853	25th July 1843	Frederic Lewis Westenholz.
Propelling machinery [revolving steam-engine] -	9859	3rd Aug. 1843	{ Peter Borrie. Mayer Henry.
Steam-engines - - - - -	9866	15th Aug. 1843	George Bennetts.
Construction of steam-engines - - - - -	9902	12th Oct. 1843	Philip Walther.
Rotary steam-engines - - - - -	9919	2nd Nov. 1843	Matthew Leach.
Means of adding power to the steam-engine and other machinery.	9949	18th Nov. 1843	Edward Elliot.
Steam-engines; apparatus connected therewith for driving machinery.	9971	5th Dec. 1843	John Hick.
Steam-engines - - - - -	10,087	2nd March 1844	John Stevelly.
Steam-engines - - - - -	10,107	14th March 1844	Moses Poole.
Steam-engines;—applicable to other motive-engines	10,108	14th March 1844	Emanuel Wharton.
Steam-engines - - - - -	10,124	28th March 1844	Joseph Maudslay.
Steam-engines - - - - -	10,141	10th April 1844	John Aitken.
Steam-engines - - - - -	10,161	27th April 1844	Isaiah Davies.
Steam-engines - - - - -	10,193	22nd May 1844	James Petrie.
Mechanical combinations for economy of power and fuel in steam-engines.	10,201	23rd May 1844	John Taylor.
Steam-engines - - - - -	10,213	4th June 1844	George Chapman.

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<b>STEAM, &amp;c.—continued.</b>			
Marine and stationary engines - - - - -	10,239	3rd July 1844	Guy Carleton Coffin.
Marine and stationary engines, and apparatus connected therewith.	10,243	3rd July 1844	John George Bodmer.
Steam-engines - - - - -	10,245	3rd July 1844	Octavius Henry Smith.
Construction of certain steam-engines - - -	10,261	15th July 1844	Henry Davies.
Steam-engines - - - - -	10,398	16th Nov. 1844	Joseph Maudslay.
Oscillating engines worked by steam - - -	10,445	21st Dec. 1844	Benjamin Biram.
Rotary engine to be impelled by steam;—applicable to other purposes.	10,497	28th Jan. 1845	Thomas Earl of Dundonald.
Steam-propelling machinery [ <i>marine steam-engine</i> ] -	10,511	5th Feb. 1845	John Seaward.
Steam-engines - - - - -	10,516	10th Feb. 1845	Richard Haworth.
Steam-engines - - - - -	10,521	10th Feb. 1845	Joseph Quick.
Steam-engines - - - - -	10,531	20th Feb. 1845	Samuel Hall.
Steam-engines - - - - -	10,558	13th March 1845	{ John Blyth. Alfred Blyth. George Parker Hubbuck.
Construction, composition, and manufacture of bearings, steps, and other rubbing surfaces of steam-engines and other machinery.	10,594	7th April 1845	John Dewrance.
Rotary steam-engine - - - - -	10,599	7th April 1845	{ James Lamb Hancock. Frederick Augustus Lamb Hancock. William Lamb Hancock.
Propelling, and propelling machinery [ <i>marine steam-engine</i> ] - - - - -	10,637	24th April 1845	{ Joseph Maudslay. Joshua Field.
Steam-engines - - - - -	10,765	12th July 1845	Joseph Fulton Meade.
Combined expansive steam and atmospheric engine - - - - -	10,766	12th July 1845	{ Samuel Trethewey. Joseph Quick.
Rotatory steam-engine - - - - -	10,786	25th July 1845	William Breynton.
Steam-engine, and its application to steam navigation.	10,836	18th Sept. 1845	Stephen Higginson Perkins.
Steam-engines - - - - -	10,856	9th Oct. 1845	Joseph Quick.
Steam-engines - - - - -	10,913	3rd Nov. 1845	Thomas Edwards.
Double-cylinder condensing engine - - -	10,943	15th Nov. 1845	Edward Hall.
Steam-engine - - - - -	11,001	10th Dec. 1845	William M'Naught.
Steam-engines - - - - -	11,017	23rd Dec. 1845	{ John Penn. William Hartree, junior. John Matthew.
Steam-engines - - - - -	11,021	24th Dec. 1845	Charles William Siemens.
Steam-engines - - - - -	11,034	12th Jan. 1846	John Seaward.
Steam-engines - - - - -	11,162	7th April 1846	{ James Allingham. James William M'Gauley.
Steam-engines - - - - -	11,167	15th April 1846	William Tutin Haycraft.
Marine and stationary steam-engines, and apparatus connected therewith.	11,199	7th May 1846	Thomas Melling.
Steam-engines - - - - -	11,201	7th May 1846	Mark Rollinson.
Construction of steam-engines - - - - -	11,221	26th May 1846	James Montgomery.
Construction of rotatory steam-engines - - -	11,231	30th May 1846	Henry Seymour Westmacott.
Steam-engines - - - - -	11,294	14th July 1846	Gustaf Victor Gustafson.
Marine and stationary engines - - - - -	11,340	17th Aug. 1846	George Remington.

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<b>STEAM, &amp;c.—continued.</b>			
Engines to be worked by steam or other power, and applicable to raising or forcing water, the propulsion of vessels, and other similar purposes.	11,418	15th Oct. 1846	Ebenezer Southworth.
Improvements in machinery, partly applicable to steam-engines.	11,426	22nd Oct. 1846	James Lysander Hale.
Steam-engines - - - - -	11,439	5th Nov. 1846	Matthew Leahy.
Steam-engines and machinery connected therewith -	11,473	3rd Dec. 1846	Thomas Craddock.
Steam-engines - - - - -	11,506	21st Dec. 1846	Moses Poole.
Steam-engines - - - - -	11,510	31st Dec. 1846	William Knowelden.
Steam-engines - - - - -	11,522	11th Jan. 1847	Joseph Berroir Pierret.
Rotatory steam-engines - - - - -	11,539	21st Jan. 1847	Thomas Onions.
Rotatory steam-engines - - - - -	11,541	23rd Jan. 1847	William Breynton.
Steam-engines - - - - -	11,609	9th March 1847	Amedée François Rémond.
Steam-engines - - - - -	11,611	10th March 1847	Matthew Sproule.
Engines to be worked by vapour or steam, either separately or combined.	11,615	10th March 1847	William Newton.
Engines to be worked by vapour or steam, either separately or combined.	11,625	16th March 1847	William Newton.
Rotary engines to be worked by steam or other power;—applicable to raising or forcing fluids.	11,639	23rd March 1847	Henry Heycock.
Steam-engines - - - - -	11,652	8th April 1847	David Napier.
Steam-engines - - - - -	11,713	22nd May 1847	John Aitken.
Steam-engines - - - - -	11,731	3rd June 1847	Thomas Woodbridge.
Engines to be worked by steam or other fluid -	11,763	22nd June 1847	John Macintosh.
Steam-engines - - - - -	11,764	22nd June 1847	{ James Soutter. William Frederick Ham- mond.
Universal wheels or direct rotatory engines, to be worked by steam or other elastic power.	11,800	17th July 1847	Anthony Bernard Von Rathen.
Steam-engines - - - - -	11,820	29th July 1847	Stopford Thomas Jones.
Steam-engines - - - - -	11,838	19th Aug. 1847	{ William Bacon. Thomas Dixon.
Steam-engines - - - - -	11,859	9th Sept. 1847	James Sims.
Steam-engines - - - - -	11,946	6th Nov. 1847	James Pedder.
Construction of rotary engines to be worked by steam or other elastic fluid.	11,956	11th Nov. 1847	Israel Kinsman.
Engines to be worked by steam or other fluids -	12,006	22nd Dec. 1847	Charles William Siemens.
Steam-engines - - - - -	12,010	4th Jan. 1848	Edward Humphrys.
Certain kinds of rotatory engines worked by steam or other elastic fluids.	12,026	13th Jan. 1848	Robert Wilson.
Steam-engines for driving thrashing-machines;—applicable also to driving other machinery.	12,080	8th March 1848	William Exall.
Stationary and marine steam-engines - - -	12,083	8th March 1848	William Beckett Johnson.
Steam-engines - - - - -	12,105	22nd March 1848	John Lawes Cole.
Steam-engines - - - - -	12,118	10th April 1848	James Petrie.
Steam-engines - - - - -	12,145	2nd May 1848	Isaiah Davies.
Steam-engines - - - - -	12,149	4th May 1848	Henry William Schwartz.
Maine and stationary engines - - - - -	12,163	26th May 1848	George Remington.
Steam-engines which may also be worked by other fluids - - - - -	12,182	10th June 1848	{ Richard Want. George Venum.

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<b>STEAM, &amp;c.—continued.</b>			
Steam-engines;—partly applicable to other motive-machinery.	12,217	18th July 1848	Joseph Stenson.
Steam-engines - - - - -	12,231	7th Aug. 1848	{ Samuel Thornton. James Edward M'Connell.
Steam-engines - - - - -	12,238	14th Aug. 1848	John Varley.
Steam-engines - - - - -	12,240	14th Aug. 1848	{ Joseph Simpson. James Alfred Shipton.
Steam-engines - - - - -	12,244	17th Aug. 1848	{ William Galloway. John Galloway.
Steam-engines - - - - -	12,253	22nd Aug. 1848	Alonzo Buonaparte Woodcock.
Steam-engines - - - - -	12,265	4th Sept. 1848	William Losh.
Steam-engines; machinery or apparatus belonging thereto;—partly applicable to other purposes - }	12,300	26th Oct. 1848	{ James Burrows. George Holcroft.
Engines - - - - -	12,344	29th Nov. 1848	{ John Lane. John Taylor.
Steam-engines - - - - -	12,347	2nd Dec. 1848	{ Jonah Davies. George Davies.
Steam-engines - - - - -	12,351	2nd Dec. 1848	George Armstrong.
Steam-engines; apparatus connected therewith -	12,362	9th Dec. 1848	{ Andrew Lamb. William Alltoft Summers.
Rotary steam-engines - - - - -	12,371	16th Dec. 1848	William Wild.
Marine steam-engines - - - - -	12,386	21st Dec. 1848	John Penn.
Construction of rotary engines to be worked by steam or other elastic fluid.	12,394	28th Dec. 1848	Israel Kinsman.
Steam-engines - - - - -	12,395	28th Dec. 1848	William Edward Newton.
Engines to be worked by steam - - - - -	12,399	4th Jan. 1849	William Crofton Mont.
Steam-engines - - - - -	12,410	11th Jan. 1849	Robert Urwin.
Steam-engines - - - - -	12,420	16th Jan. 1849	Jean Baptiste François Mazeline, aîné.
Marine steam-engines - - - - -	12,433	23rd Jan. 1849	Edward Slaughter.
Steam-engines - - - - -	12,435	23rd Jan. 1849	Charles De Bergue.
Parts of steam-engines - - - - -	12,453	6th Feb. 1849	Edmund George Pinchbeck.
Apparatus used in stopping steam-engines and other first-movers - - - - - }	12,468	12th Feb. 1849	{ George Edmond Donisthorpe. James Milnes.
Steam-engines, more particularly applicable to marine-engines - - - - - }	12,468	28th Feb. 1849	{ John Hick. William Hodgson Gratrix.
Engines to be worked by steam and other fluids -	12,531	20th March 1849	Charles William Siemens.
Steam-engines - - - - -	12,547	28th March 1849	William Hartley.
Marine and stationary steam-engines - - - - -	12,576	17th April 1849	George Remington.
Marine and stationary engines; also connecting apparatus of marine engines - - - - - }	12,627	2nd June 1849	{ Henry Trewhatt. Thomas Russell Crampton.
Steam-engines - - - - -	12,644	7th June 1849	Robert Wilson.
Steam-engines - - - - -	12,652	7th June 1849	Douglas Hebson.
Manufacture of packing for steam-engine cylinders and other purposes;—partly applicable to the manufacture of waterproof fabrics and leather.	12,660	14th June 1849	Michael John Haines.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Steam-engines for agricultural purposes - - -	12,693	7th July 1849	Richard Garrett.
Steam-engines - - - - -	12,708	18th July 1849	Evan Leigh.
Improvements partly applicable to steam-engines generally.	12,746	23rd Aug. 1849	Charles Cowper.
Steam-engines - - - - -	12,762	13th Sept. 1849	Benjamin Goodfellow.
Steam-engines - - - - -	12,769	13th Sept. 1849	Robert Griffiths.
Steam-engine - - - - -	12,776	20th Sept. 1849	{ William Peace. Edward Evans.
Pumps, and machinery for working the same;— applicable for working other machinery [ <i>steam-engine pumps</i> ].	12,783	20th Sept. 1849	William Edward Newton.
Rotatory engines to be worked by steam or other means; machinery connected therewith.	12,810	12th Oct. 1849	Cornelius Bonell.
Steam-engines - - - - -	12,829	2nd Nov. 1849	{ William Buckwell. Joseph Apsey.
Apparatus for stopping steam-engines and other first-movers - - - - -	12,849	17th Nov. 1849	{ George Edmond Donisthorpe. James Milnes.
Engines worked by steam and other fluids - -	12,880	10th Dec. 1849	{ Jonah Davies. George Davies.
Steam-engines - - - - -	12,908	21st Dec. 1849	{ Frederick George Spray. George Nevett.
Steam-engines - - - - -	12,915	3rd Jan. 1850	Joe Sidebottom.
Steam and other power engines - - - - -	12,924	11th Jan. 1850	Alfred Cooper.
Improvements partly applicable to steam-engines -	12,931	17th Jan. 1850	Joseph Nye.
Steam-engines - - - - -	12,964	9th Feb. 1850	{ Bryan Donkin, junior. Barnard William Farey.
Steam-engines - - - - -	12,968	7th March 1850	William M'Naught.
Steam-engines; apparatus connected therewith -	13,012	23rd March 1850	{ John Varley. Joseph Hacking.
Construction of steam-engines and steam-engine machinery.	13,029	5th April 1850	James Samuel.
Improvements applicable to steam and other motive-engines.	13,094	1st June 1850	Samuel Brown.
Oscillating engines put in motion by steam and gas resulting from combustion.	13,111	8th June 1850	Peter Armand le Comte de Fontainemoreau.
Steam-engines - - - - -	13,117	11th June 1850	Robert Waddell.
Steam-engines - - - - -	13,119	11th June 1850	{ William Pole. David Thomson.
Steam-engines - - - - -	13,139	19th June 1850	Charles Hanson.
Steam-engines - - - - -	13,156	3rd July 1850	James Thomson.
Steam-engines - - - - -	13,159	3rd July 1850	Paul Rapsey Hodge.
Steam-engines for agricultural purposes - -	13,165	3rd July 1850	Richard Hornsby.
Steam-engines - - - - -	13,185	22nd July 1850	Thomas Mills.
Steam-machinery, and apparatus connected therewith.	13,206	31st July 1850	Joseph Poole Pirsson.
Steam-engines - - - - -	13,219	12th Aug. 1850	Alfred Holland.
Steam-engines;—partly applicable to other similar purposes.	13,243	5th Sept. 1850	George Smith.
Pistons of steam-engines - - - - -	13,246	5th Dec. 1850	{ William Erskine Cochran. Henry Francis.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Engines to be worked by steam or other elastic fluid - - - - -	13,271	3rd Oct. 1850	{ William Boggett. William Smith.
Steam-engines - - - - -	13,285	17th Oct. 1850	John Fowler.
Arrangement of the steam-engine for driving flax and woollen mills;—applicable to other purposes where motive-power is required.	13,289	17th Oct. 1850	Thomas Richards Harding.
Improvements partly applicable to steam-engines -	13,333	12th Nov. 1850	Joseph Nye.
Steam-engines - - - - -	13,340	12th Nov. 1850	Henry Wimshurst.
Engines to be worked by steam or other power -	13,397	7th Dec. 1850	William Edward Newton.
Steam-engines, and apparatus for generating steam, such improvements in engines being wholly or in part applicable where other vapours or gases are used as the motive-power.	13,410	12th Dec. 1850	William Beckett Johnson.
Steam-engines - - - - -	13,419	19th Dec. 1850	David Auld.
Steam-engines - - - - -	13,435	2nd Jan. 1851	{ John Tatham. David Cheetham.
Steam-engines, applicable wholly or in part to other motive-engines.	13,522	24th Feb. 1851	Edward Lloyd.
Steam-engines - - - - -	13,545	10th March 1851	Elijah Galloway.
Steam-engines - - - - -	13,552	11th March 1851	{ William Galloway. John Galloway.
Steam-engines - - - - -	13,598	24th April 1851	William Andrews.
Rotatory steam-engines - - - - -	13,614	3rd May 1851	Gaetan Kossovitch.
Improvements in certain parts of engines worked by steam.	13,625	8th May 1851	William Edward Newton.
Steam-engines - - - - -	13,641	27th May 1851	Archibald Slate.
Steam-engines - - - - -	13,700	28th July 1851	Richard Lloyd.
Steam-engines - - - - -	13,706	31st July 1851	James Whitelaw.
Improvements partly applicable to stationary and marine steam-engines.	13,729	28th Aug. 1851	James Edward M'Connell.
Steam-engines - - - - -	13,744	11th Sept. 1851	David Main.
Working the valves of steam-engines for marine and other purposes.	13,820	20th Nov. 1851	Frederick Joseph Bramwell.
Steam-propelling machinery [ <i>marine steam-engines</i> ] -	13,831	22nd Nov. 1851	George Mills.
Steam-engine for driving agricultural implements -	13,836	1st Dec. 1851	William Exall.
Steam-engines - - - - -	13,840	4th Dec. 1851	John Macintosh.
Steam-engines - - - - -	13,843	8th Dec. 1851	Joseph Harrison.
Manufacture of steam apparatus applicable to motive purposes.	13,883	27th Dec. 1851	Joseph Stenson.
Steam-engines - - - - -	13,884	31st Dec. 1851	David Napier.
Construction of steam-engines [ <i>consisting of a rotatory circular valve for the regular admission of steam from the boiler alternately into the chambers of the two cylinders of double-acting engines</i> ].	13,893	12th Jan. 1852	William Cook.
Steam-engines;—applicable, or partly so, to pumps and other motive-machines.	13,921	26th Jan. 1852	Joseph Maudslay.
Multiplying motion, applicable to steam-engines, saw-mills, and other machinery in which an increase of velocity is required.	13,942	31st Jan. 1852	Charles Cowper.
Steam-engines - - - - -	13,988	23rd Feb. 1852	Thomas Walker.
Steam-engines - - - - -	14,012	8th March 1852	Walter Young.
Rotary steam-engines - - - - -	14,017	8th March 1852	Alexander Hédiard.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Improvements in and applicable to boats, ships, and other vessels [ <i>marine engines and boilers</i> ].	14,180	22nd May 1852	Richard Roberts.
Steam-engines - - - - -	14,157	8th June 1852	Edme Augustin Chameroy.
Steam-engines - - - - -	14,181	24th June 1852	George Pearson Renshaw.
Steam-engines - - - - -	14,182	24th June 1852	James Edward McConnell.
Steam-engines - - - - -	14,206	6th July 1852	John Henry Johnson.
Construction of steam-engines - - - - -	14,259	12th Aug. 1852	{ Daniel Adamson. Leonard Cooper.
Steam-engines - - - - -	14,353	21st Dec. 1852	Robert Burn.
<b>VIII.—Locomotive-engines and Apparatus.</b>			
Machine for the working and towing of ships, sloops, barges, and all other vessels upon the water [ <i>locomotive steam-engine</i> ] - - - - -	1640	4th March 1788	{ Robert Fourness. James Ashworth.
Reciprocating steam-engine for mills, pumps, cranes, carriages, &c.	1822	12th Aug. 1791	Thomas Mead.
Construction of locomotive-engines - - - - -	3887	28th Feb. 1815	{ Ralph Dobbs. George Stephenson.
New locomotive-apparatus - - - - -	5260	6th Oct. 1825	Sir George Cayley.
Locomotive-engines; apparatus connected therewith.	5554	11th Oct. 1827	Goldsworthy Gurney.
Construction of and machinery for locomotive-machines.	5950	1st July 1830	John Henry Clive.
Locomotive-engines - - - - -	5995	7th Sept. 1830	{ Charles Blacker Vignoele. John Ericsson.
Machine worked by steam, and applicable for the moving of carriages on the road or on tramways.	6120	24th May 1831	Samuel Hobday.
Steam-engine and boiler, and apparatus or machinery connected therewith, for propelling vessels, carriages, and other purposes.	6181	16th Sept. 1831	George Holworthy Palmer.
Locomotive steam-engines for conveyance of passengers and goods upon edge-railways.	6372	26th Jan. 1835	Robert Stephenson.
Machinery of steam-engines, and manner of their application to locomotive purposes.	6462	14th Aug. 1833	John Scott Russell.
Locomotive steam-engines for use on edge-railways -	6484	7th Oct. 1833	Robert Stephenson.
Construction of locomotive steam-engines for railways and common roads.	6785	11th March 1835	Joshua Butters Bacon.
Rendering condensing steam-engines portable, and applicable as a means of transport on rail and other roads.	6877	10th Aug. 1835	Samuel Wilson Nickoll.
Machinery and apparatus applicable to purposes of locomotion.	6923	5th Nov. 1835	Thomas Earl of Dundo-nald.
Locomotive steam-engines - - - - -	6989	23rd Jan. 1836	Henry Booth.
Locomotive apparatus - - - - -	7097	17th May 1836	Henry Walker Wood.
Steam-engines to be used on railways, and for other purposes.	7163	6th Aug. 1836	Thomas Binns.
Locomotive steam-engines - - - - -	7191	22nd Sept. 1836	{ Henry Van Wart. Samuel Aspinwall Goddard.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Locomotive steam-engines to be used on railways or other roads.	7254	15th Dec. 1836	John Melling.
Locomotive-engines - - - - -	7260	21st Dec. 1836	Thomas Elliott Harrison.
Locomotive steam-engines to be used on rail or other roads.	7301	16th Feb. 1837	Richard Burch.
Locomotive-engines;—partly applicable to other purposes.	7407	19th July 1837	Sir James Caleb Anderson.
Locomotive steam-engines to be used on railways -	7410	26th July 1837	John Melling.
Locomotive steam-engines - - - - -	7453	2nd Nov. 1837	Joseph Whitworth.
Locomotive and other engines - - - - -	7484	21st Nov. 1837	Elisha Wylde.
Improvements applicable to locomotive steam-engines.	7512	19th Dec. 1837	John Gray.
Improvements applicable to locomotive-engines and tenders to be used upon railways;—also applicable to other useful purposes.	7513	19th Dec. 1837	Edmund Butler Rowley.
Machinery to be employed for locomotion on railroads and other roads;—applicable to other engines for exerting power.	7559	31st Jan. 1838	George Ryder Peppercorne.
Steam-engines applicable to locomotive uses - -	7703	25th June 1838	George Holworthy Palmer.
Machinery applicable to locomotion on railroads -	7730	11th July 1838	{ Henry Van Wart. Samuel Aspinwall Goddard.
Improvements applicable to locomotive-engines -	7745	26th July 1838	John Gray.
Construction of locomotive-engines - - -	7958	29th Jan. 1839	Frank Hills.
Locomotive-engines - - - - -	7968	14th Feb. 1839	Frederick Cayley Worsley.
Steam-engine applicable to locomotive purposes -	8015	26th March 1839	Edmund Butler Rowley.
Bearings of locomotive steam-engines - - -	8023	9th April 1839	James Nasmyth.
Steam-engine applicable to locomotive purposes -	8146	6th July 1839	John Ericasson.
Construction and manufacture of engines and machinery to be used on railways;—applicable to other engines - - - - -	8219	16th Sept. 1839	{ Isaac Dodds. William Owen.
Improvements in locomotive and other steam-engines, in respect of conveying steam from the boilers to the cylinders - - - - -	8277	21st Nov. 1839	{ Robert Hawthorn. William Hawthorn.
Locomotive steam-engines - - - - -	8463	2nd April 1840	James Stead Crosland.
Construction of locomotive steam-engines - -	8504	12th May 1840	Henry Dircks.
Locomotive-engines to be used on railways - -	8520	28th May 1840	Daniel Gooch.
Improvements applicable to locomotive and other engines.	8581	6th July 1840	Edwin Turner.
Making and working locomotive and other steam-engines - - - - -	8694	12th Nov. 1840	{ Thomas William Parkin. Elisha Wylde.
Engines to be worked on railroads - - - - -	8699	12th Nov. 1840	Eugenius Birch.
Locomotive-engines; machinery for their construction.	8741	16th Dec. 1840	Joseph Beattie.
Locomotive-engines - - - - -	8750	23rd Dec. 1840	George Thornton.
Construction of locomotive-engines - - -	8819	28th Jan. 1841	William Gall.
Locomotive-engines - - - - -	8831	3rd Feb. 1841	Joseph Bunnett.
Locomotive-engines - - - - -	8863	22nd May 1841	Joseph Woods.
Arrangement and combination of the parts of locomotive-engines.	8998	23rd June 1841	Robert Stephenson.
Steam-engines - - - - -	9261	15th Feb. 1842	{ Thomas Russell Cramp- ton. John Coope Haddan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Locomotive and other machinery to be used on water or on land.	9478	29th Sept. 1842	Samuel Henson.
Locomotive and other steam-engines - - -	9570	22nd Dec. 1842	Robert Wilson.
Locomotive and other steam-engines - - -	9571	22nd Dec. 1842	James Morris.
Locomotive-engines;—partly applicable to other steam-engines - - - - - }	9691	7th April 1843	{ Robert Hawthorn. William Hawthorn.
Locomotive steam-engines - - - - -	9702	20th April 1843	John George Bodmer.
Locomotive steam-engines, effecting a saving of fuel; improvements applicable to increasing the adhesion of wheels of railway engines, carriages, and tenders upon the lines of rail, when the same are in a moist state.	10,112	19th March 1844	Hugh Inglis.
Locomotive-engines - - - - -	10,239	3rd July 1844	Guy Carleton Coffin.
Locomotive steam-engines - - - - -	10,243	3rd July 1844	John George Bodmer.
Locomotive steam-engines - - - - -	10,251	10th July 1844	Timothy Fisher.
Locomotive-engines - - - - -	10,513	10th Feb. 1845	Robert Bewick Longridge.
Locomotive-engines running on railways and common roads, for the prevention of accidents.	10,601	7th April 1845	Edward Bury.
Locomotive-engines - - - - -	10,824	4th Sept. 1845	Henry Samuel Rayner.
Locomotive-engines - - - - -	10,854	6th Oct. 1845	Thomas Russell Crampton.
Locomotive-engine - - - - -	11,038	13th Jan. 1846	Robert Bewick Longridge.
Locomotive steam-engines - - - - -	11,086	11th Feb. 1846	{ George Stephenson. William Howe.
Locomotive-engines - - - - -	11,099	19th Feb. 1846	Robert Nisbet.
Locomotive-engines - - - - -	11,170	18th April 1846	Elijah Galloway.
Locomotive steam-engines; machinery and apparatus connected therewith.	11,199	7th May 1846	Thomas Melling.
Locomotive and other engines - - - - -	11,234	2nd June 1846	{ William Stubbs. John Isaiah Grylla.
Locomotive-engines;—partly applicable to marine and stationary engines.	11,340	17th Aug. 1846	George Remington.
Locomotive-engines - - - - -	11,349	25th Aug. 1846	Thomas Russell Crampton.
Railway-engines - - - - -	11,352	26th Aug. 1846	Henry Bessemer.
Construction of wheel carriages, and engines moved or retarded by animal or mechanical agency;—partly applicable to other like purposes [railway-engines].	11,445	2nd Nov. 1846	William Bridges Adams.
Locomotive-engines - - - - -	11,582	16th Feb. 1847	Robert Stirling Newall.
Certain mechanical improvements applicable to railway engines and tenders.	11,618	10th March 1847	Thomas Waterhouse.
Engines to run on railways - - - - -	11,642	29th March 1847	John Henry Griesbach.
Construction of engines to be used upon railways -	11,715	24th May 1847	{ William Bridges Adams. Robert Richardson.
Construction of engines to be used on railways -	11,733	3rd June 1847	George Taylor.
Construction of locomotive-engines to be used on rail or other ways.	11,740	12th June 1847	William Beckett Johnson.
Railway-engines - - - - -	11,748	15th June 1847	John Lane.



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<b>STEAM, &amp;c.—continued.</b>			
Locomotive-engines - - - - -	11,760	19th June 1847	Thomas Russell Crampton.
Improvements applicable to locomotive-engines -	11,793	13th July 1847	Alfred Vincent Newton.
Locomotive-engines - - - - -	11,801	19th July 1847	Edward Slaughter.
Construction of locomotive-engines to be used on railways.	11,845	23rd Aug. 1847	Alexander Speid Livingstone.
Locomotive-engines - - - - -	11,885	7th Oct. 1847	James Pearson.
Locomotive-engines - - - - -	11,953	9th Nov. 1847	George Heaton.
Locomotive and other engines - - - - -	12,078	2nd March 1848	Charles Ritchie.
Locomotive steam-engines - - - - -	12,083	8th March 1848	William Beckett Johnson.
Locomotive-engines - - - - -	12,089	8th March 1848	{ John M'Conochie. Louis James Claude.
Locomotive-engines - - - - -	12,163	26th May 1848	George Remington.
Machinery for bending and fitting plates or bars of steel, iron, and other materials, for locomotive-engines and for other purposes.	12,173	1st June 1848	Thomas Burdett Turton.
Mechanism applicable to locomotive-engines for railways, and for other purposes.	12,282	12th Oct. 1848	Elias Robison Handcock.
Railway-engines and their appurtenances - -	12,492	28th Feb. 1849	Perceval Mosca Parsons.
Locomotive steam-engines - - - - -	12,576	17th April 1849	George Remington.
Locomotive-engines - - - - -	12,627	2nd June 1849	{ Henry Trewhatt. Thomas Russell Cramp- ton.
Locomotive-engines - - - - -	12,758	6th Sept. 1849	{ Sir John Macneill. Thomas Barry.
Locomotive-engines worked by steam and other fluids	12,880	10th Dec. 1849	{ Jonah Davies. George Davies.
Locomotive and other engines - - - - -	12,892	15th Dec. 1849	{ Timothy Hackworth. John Wesley Hackworth.
Locomotive and other steam-engines - - -	13,043	15th April 1850	Charles De Bergue.
Construction of locomotive-engines - - -	13,179	17th July 1850	John Melville.
Locomotive-engines - - - - -	13,210	31st July 1850	Edouard Gabriel Leroy.
Locomotive and other steam-engines - - -	13,281	10th Oct. 1850	William Francis Fernihough.
Locomotive-engines;—applicable to other steam-engines - - - - -	13,533	24th Feb. 1851	{ Robert Hawthorn. William Hawthorn.
Locomotive and other engines - - - - -	13,618	3rd May 1851	William Smith.
Construction of locomotive-engines;—partly applicable to other purposes.	13,653	3rd June 1851	William Bridges Adams.
Locomotive-engines - - - - -	13,705	31st July 1851	Charles Cowper.
Locomotive steam-engines - - - - -	13,729	28th Aug. 1851	James Edward M'Connell.
Locomotive steam-engines - - - - -	13,756	25th Sept. 1851	James Garforth.
Locomotive-engines; machinery by which some of the improvements are effected.	13,782	22nd Oct. 1851	Joseph Beattie.
Locomotive-engines applicable to every kind of transmission of motion.	13,905	22nd Jan. 1852	Peter Armand le Comte de Fontainemoreau.
Locomotive and other steam-engines - - -	14,044	25th March 1852	John Smith.

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<b>STEAM, &amp;c.—continued.</b>			
Locomotive-engines;—partly applicable to other engines.	14,178	24th June 1852	Jean Baptiste Georges Laudet.
Locomotive and other steam-engines - - -	14,189	24th June 1852	John M'Conochie.
<b>IX.—Rotary and Oscillating Engines.</b>			
Rotatory engine for applying the power of fluids as first-movers.	2889	14th Nov. 1805	John Trotter.
Rotative engine, the piston of which makes a complete revolution at a distance from the revolving axis, shaft, or cylinder.	3247	26th July 1809	Samuel Clegg.
Rotary engine, and application thereof, with or without other machinery, to useful purposes.	4014	8th April 1816	Joseph Turner.
Obtaining a rotary motion by means of water, steam, gas, or other vapour; applicable to giving blast to furnaces and forges, also to other purposes where a constant blast is required [ <i>a rotary engine which may be used as a pump</i> ].	5987	5th Aug. 1830	John Street.
Construction and operation of rotary engines, and apparatus connected therewith.	6530	20th Dec. 1833	Thomas Earl of Dundonald.
Rotary engine - - - - -	6991	28th Jan. 1836	John Filmore Kingston.
Rotatory engine - - - - -	7224	15th Nov. 1836	John Yule.
Machinery for obtaining mechanical power [ <i>rotary engine</i> ].	7325	15th March 1837	Henry Davies.
Rotatory engines - - - - -	7916	19th Dec. 1838	Joseph Zambeau.
Rotatory engines - - - - -	8493	5th May 1840	George Mackay.
Rotary engine - - - - -	8572	18th July 1840	{ James Jamieson Cordes. Edward Locke.
Construction and application of rotary engines -	9249	8th Feb. 1842	Benjamin Biram.
Rotatory engines - - - - -	9398	21st June 1842	John Dickson.
Rotatory engines - - - - -	9961	8th Dec. 1843	William Baddeley.
Revolving engines - - - - -	10,189	17th May 1844	John M'Intosh.
Oscillating engines - - - - -	10,445	21st Dec. 1844	Benjamin Biram.
Machinery for propelling vessels, carriages, and machinery [ <i>rotatory engines</i> ].	11,044	20th Jan. 1846	Peter Taylor.
Rotary engines - - - - -	11,465	14th Dec. 1846	Elijah Galloway.
Rotatory engines - - - - -	11,527	14th Jan. 1847	Stephen R. Parkhurst.
Rotatory engines - - - - -	11,537	19th Jan. 1847	John M'Intosh.
Mechanism applicable to impelling and facilitating the propulsion of vessels in the water [ <i>rotary engines</i> ].	12,282	12th Oct. 1848	Elias Robison Handcock.
Rotary engines and fans connected therewith, used in smelting iron and other ores.	12,928	15th Jan. 1850	Andrew Barclay.
Rotary engines - - - - -	13,116	11th June 1850	William Edward Newton.
Construction of rotatory engines - - - - -	13,237	22nd Aug. 1850	Duncan Bruce.
Rotary engines and fans - - - - -	13,245	5th Sept. 1850	Andrew Barclay.
Rotary engines - - - - -	13,686	3rd July 1851	Charles Barlow.
Rotatory and other engines - - - - -	13,704	31st July 1851	Victor Lemoign.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
<b>X.—Regulating the Velocity of Steam-engines; admitting Steam;—Governors and Steam-gauges.</b>			
Machinery for regulating the power and motion of windmills and other mills, and for regulating all other machinery where the first motion is irregular;—applicable to other purposes.	1708	29th Oct. 1789	Stephen Hooper.
Regulating the velocity of steam-engines and lessening the waste of power.	2471	5th Feb. 1801	Edmund Cartwright.
Regulating power - - - - -	7553	27th Jan. 1838	William Bate.
Regulators or governors for adjusting the speed or rotary motion of steam engines, water-wheels, and other machinery	8613	27th Aug. 1840	Benjamin Hick.
Construction of governors or regulators applicable to steam-engines and other engines used for obtaining motive power.	8623	10th Sept. 1840	Paul Hannuic.
Ascertaining and measuring steam-power;—partly applicable to other purposes [ <i>application of a balance or steelyard to the safety-valve of steam-boilers</i> ].	8636	21st Sept. 1840	William Mill.
Apparatus for regulating the speed of steam, air, or water engines.	9415	9th July 1842	Jean Baptiste François Jouannin.
Apparatus for portioning steam-power - - -	9591	29th Dec. 1842	John Bishop.
Controller for reversing steam-engines and working steam expansively in the cylinder.	9948	18th Nov. 1843	William Shepherd.
Regulating the power and velocity of machines for communicating power.	10,151	18th April 1844	Joseph Woods.
Regulating the pressure and generation of steam in steam boilers and generators - - - }	10,386	9th Nov. 1844	{ David Auld. Andrew Auld.
Regulating the power and velocity of machines for communicating power.	11,021	24th Dec. 1845	Charles William Siemens.
Regulating the velocity of steam-engines - -	11,267	29th June 1846	Moses Poole.
Regulators for qualifying the action of mechanical powers.	11,270	29th June 1846	Antoine Perpigna.
Steam-engines [ <i>indicating the pressure of steam in the boiler</i> ].	11,294	14th July 1846	Gustaf Victor Gustafsson.
Regulating the generation of steam in steam-boilers	11,651	8th April 1847	William Sharpe Stevenson.
Controlling motive-power - - - - -	12,303	2nd Nov. 1848	William Bullock Tibbits.
Regulating the power for driving machinery employed in manufacturing, dyeing, printing, and finishing textile fabrics; and apparatus for the purpose.	12,675	26th June 1849	James Nasmyth.
Apparatus to ascertain the power employed in working machines - - - - - }	12,704	12th July 1849	{ George Cottam. Edward Cottam.
Machinery for regulating the admission of steam to the cylinders of steam-engines.	12,930	7th Feb. 1850	Charles Atherton.
Apparatus for ascertaining and registering the power of steam-engines.	12,988	7th March 1850	William M'Naught.
Hydraulic machinery [ <i>regulating the speed of machinery by a centrifugal pump regulator</i> ].	13,156	3rd July 1850	James Thomson.
Apparatus for indicating the pressure of steam -	13,435	2nd Jan. 1851	David Cheetham.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STEAM, &amp;c.—continued.</b>			
Machinery and apparatus for measuring and regulating the working of engines.	13,457	16th Jan. 1851	Jean Marie Taurines.
Machinery for regulating and ascertaining the labour performed by manual or other power.	13,586	9th April 1851	John George Appold.
Apparatus for regulating motive-power engines -	13,759	2nd Oct. 1851	Leman Baker Pitcher.
Machinery for reversing the motion in, and regulating the speed of machines.	14,075	17th April 1852	John Knowles.
Locomotive-engines;—partly applicable to other engines [ <i>apparatus for regulating the supply of steam to the cylinders of engines</i> ].	14,176	24th June 1852	Jean Baptiste Georges Laudet.
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<b>STONE-WORKING ; SCULPTURING ; CASTING IN PLASTER.</b>			
<b>I.—Cutting and dressing Stone and Slate.</b>			
Engine for working and sawing marble - - -	152	19th Feb. 1667	Richard Calthorp.
Engine for sawing stone without the aid of wind or water.	230	27th Nov. 1683	John Booth.
Cutting and sawing stone by the strength of horses or water.	369	1st Jan. 1703	George Sorocold.
Working stones and other matters different from metal, for use in clock or watch work, and in other engines - - - - -	371	1st May 1704	{ Nicholas Facio. Peter Debaufre. Jacob Debaufre.
Machine for cutting or sawing marble and stone -	664	11th Oct. 1751	Henry Watson.
Inlaying marble with scaglioli - - - -	976	28th Dec. 1770	John Richter.
Machine for sawing stone - - - - -	1152	11th April 1777	Samuel Miller.
Preparing roofing-slates - - - - -	2687	8th March 1803	Barker Chifney.
Chain and apparatus, for straight, square, and parallel stone and marble sawing;—applicable to other purposes.	2906	12th Feb. 1806	John Phillips.
Combination of machinery for working and ornamenting marble and other stone, for jambs, mantels, chimney-pieces, and other purposes [ <i>producing grooves by a reciprocating cutter</i> ].	4741	20th Dec. 1822	Sir James Jelf.
Machinery to be employed for sawing and grooving marble and other stone, or in producing grooves or mouldings thereon.	4936	12th April 1824	James Tulloch.
Machine to pick and dress stone, particularly granite.	4944	27th April 1824	Alexander Dallas.
Machine for dressing stones used in masonry, by means of steam, wind, horse, or water power.	5847	15th Sept. 1829	James Milne.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STONE-WORKING, &amp;c.—continued.</b>			
Machinery for cutting marble and other substances [by a travelling drill].	5871	12th Nov. 1829	Joseph Gibbs.
Machinery for cutting marble and other stones, and forming mouldings in grooves thereon.	6411	15th April 1833	George Washington Wildes.
Engines or machinery for cutting or preparing slates or other similar substances or materials, for various purposes.	6636	3rd July 1834	Thomas Martin.
Cutting or what is commonly called facing and dressing certain kinds of stone.	6794	18th March 1833	George Washington Wildes.
Machinery for or methods of cutting and shaping, and otherwise figuring and working, marble, stone, alabaster, and other substances suitable for sculpture.	7363	6th May 1837	William Angus Robertson.
Improvements applicable to stone masonry - -	7385	6th June 1837	Joseph Clisild Daniell.
Machine for boring or perforating stones - -	7507	13th Dec. 1837	Thomas Hunter.
Tools and apparatus for chipping and levelling the surface of stone, slate, and other materials.	7684	12th June 1838	Richard March Hoe.
Manufacturing and finishing slate; application of the same to domestic and other purposes.	8383	8th Feb. 1840	George Eugène Magnus.
Cutting, dressing, preparing, and polishing stones, marble, and other substances; forming flat or rounded mouldings and other figures thereon - }	9180	16th Dec. 1841	{ William Neilson. David Lyon. Peter M'Onie.
Composition for cutting stone and other hard substances.	9337	30th April 1842	Henry Barclay.
Mode of cutting that kind of slates called roofing-slates.	9608	26th Jan. 1843	George Parker Bidder.
Machinery for cutting marble and other stones -	9839	13th July 1843	William Hutchison.
Machinery for cutting marble and stone - -	9358	1st Aug. 1843	Charlton James Wollaston.
Cutting slate for roofing and other purposes - -	10,333	27th Sept. 1844	James Carter.
Working or dressing the surface of stone - -	10,391	14th Nov. 1844	Mark Freeman.
Machinery or apparatus for hewing, dressing, splitting, breaking, stamping, crushing, and pressing stone or other materials.	10,418	2nd Dec. 1844	James Nasmyth.
Machinery for stamping metals;—applicable to other purposes [cutting, dressing, and chipping stone].	10,580	7th April 1845	Alfred Vincent Newton.
Cutting or carving stone and other materials - -	10,758	8th July 1845	George Myers.
Machinery for cutting and carving marble, stone, and other like substances.	10,850	3rd Oct. 1845	Graziano Conté.
Machinery for dressing stones used in grinding corn, grain, and other substances.	11,014	22nd Dec. 1845	Samuel Heseltine, junior.
Obtaining and applying motive-power [stone-cutting machines] - - - - -	11,077	11th Feb. 1846	{ Thomas Clarke. Mark Freeman. John Varley.
Apparatus for cutting or carving ornamental forms in stone and other materials.	12,073	23rd Feb. 1848	William Irving.
Machinery for dressing, shaping, cutting, and drilling or boring rocks or stone.	12,634	6th Nov. 1849	William Edward Newton.
Apparatus for cutting or dressing slates into various shapes and sizes.	13,019	23rd March 1850	Nathaniel Mathew.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STONE-WORKING, &amp;c.—continued.</b>			
Treating marble and stone - - - - -	13,218	10th Aug. 1850	Selim Richard St Clair Massiah.
Working stone and marble, and preparing products therefrom.	13,344	14th Nov. 1850	Joseph Conrad Baron Liebhaber.
Cutting and dressing stone - - - - -	13,407	12th Dec. 1850	Alfred Vincent Newton.
Machinery for preparing, dressing, cutting, and shaping stone and other materials, for buildings and architectural decorations.	13,627	10th May 1851	Charles Morey.
Machinery or apparatus for cutting, dressing, planing, and otherwise working slate, and for framing and setting the same.	13,728	28th Aug. 1851	Thomas Brown Jordan.
Cutting, shaping, and dressing stone; machinery and apparatus employed therein.	13,890	8th Jan. 1852	Charles Dickon Archibald.
Machinery and apparatus used in cutting, dressing, planing, framing, and otherwise working and treating, stone and slate; also joining, framing, and connecting the same [ <i>applying india-rubber, gutta-percha, &amp;c., to form connections of slabs, and to secure school-slates in their frames</i> ]	14,165	12th June 1852	{ Edwyn John Jeffery Dixon. Arthur John Dodson.
Machine for cutting and sawing [ <i>stone, &amp;c.</i> ] - -	14,211	6th July 1852	Frederick Sang.
Cutting shistus for slates [ <i>for roofing and for other purposes</i> ].	14,269	19th Aug. 1852	Pierre Armand le Comte de Fontainemoreau.
<b>IX.—Sculpturing, moulding, and casting in Plaster.</b>			
Making statues of porcelain - - - - -	234	12th June 1684	John Dwight.
Method of making pedestals or supporters for candlesticks, girandoles, chandeliers, lamps, candle-shades, épergnes, clocks, watches, terms, tripods, vases, or urns, of various materials and variously ornamented.	1267	28th March 1781	William Parker.
Machine for cutting pillars or tubes, either cylindrical or conical, out of solid stone, wood, or other materials.	2837	30th March 1805	Sir George Wright.
Giving to statues and other ornamental works in plaster of Paris an appearance nearly resembling the finest statuary marble, at the same time rendering them more hard and durable, less liable to be soiled, and easier to be cleaned.	3262	26th Sept. 1809	John Penwarne.
Substance capable of being converted into statues -	3269	29th Sept. 1809	John White, junior.
Forming cylinders, columns, and circular discs, out of solid blocks and slabs of stone.	3292	15th Jan. 1810	William Murdock.
Application of known materials or cements to the modelling of statues, making slabs, raising or impressing figures or other ornamental appearances, and for other purposes in which mastic or cement may be applied.	4305	10th Nov. 1818	Moses Poole.
Method of forming and manufacturing vases, urns, basins, and other ornamental articles [ <i>of china-ware or Roman cement</i> ].	4576	26th July 1821	Samuel Bagshaw.
Method of constructing columns - - - - -	4710	27th Sept. 1822	James Frost.
Preparation of a certain composition, and its application to making dies, moulds, matrices, smooth surfaces, and various other useful articles.	5195	21st June 1825	Philip Brooks.
Machinery applicable to the imitation of medals, sculpture, and other works of art executed in relief.	6254	9th April 1832	John Bate.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STONE-WORKING, &amp;c.—continued.</b>			
Making columns, monuments, and cornices, such as have heretofore been made of marble.	7091	12th May 1836	Richard Wilson.
Machinery for or method of sculpturing, moulding, and otherwise figuring and working, marble, stone, alabaster and other substances suitable for sculpture, and for taking copies of the works produced thereby, or of similar works produced by the ordinary means; also taking casts of the living human face, figure, or other forms.	7363	6th May 1837	William Angus Robertson.
Constructing columns, pillars, and other like articles [of china or earthenware].	7592	14th March 1838	William Dale.
Manufacture of glass [applying the waste slag of smelting-furnaces to the production of monuments and other species of ornamental architecture].	7849	3rd Nov. 1838	Adolphus Henri Erneste Ragon.
Producing plain and ornamental articles and surfaces from cements or earths - - - - }	8090	4th June 1839	{ Christopher Nickels. John Danforth Greenwood.
Apparatus and process for producing sculptured forms, figures, or devices, in marble and other hard substances.	8492	5th May 1840	William Newton.
Sculpturing and moulding stone and other substances - - - - }	9049	21st Aug. 1841	{ John Harvig. Felix Moreau.
Combining materials to be used for cementing purposes, and for preventing the passage of fluids; forming or constructing articles from such compositions of materials [suitable for forming statues and vases].	9487	8th Oct. 1842	Claude Edward Deutsche.
Manufacturing pathological representations in relief, and arranging them for use.	10,229	18th June 1844	Charles William Graham.
Construction of apparatus for cutting ornamental forms, beads, recesses, and mouldings, in stone and other materials.	10,517	10th Feb. 1845	William Irving.
Machinery for sculpturing marble, stone, and other like substances.	10,850	3rd Oct. 1845	Graziano Conté.
Apparatus partly applicable to the manufacture of columns.	10,981	5th Dec. 1845	Henry Bessemer.
Producing figured surfaces, either sunk or in relief -	11,416	15th Oct. 1846	Arthur Millward.
Apparatus for cutting or carving ornamental forms in stone and other materials.	12,073	23rd Feb. 1848	William Irving.
Casting in plaster and certain other materials - -	12,306	2nd Nov. 1848	John Harria.
Machinery for producing figures in relieve - -	12,845	17th Nov. 1849	Louis Adolphe Duperrey.
Application of plain or ornamental glass, alone or in combination, to new purposes of construction or manufacture [blocks or slabs for making monuments].	13,458	16th Jan. 1851	Robert Cogan.
Making columns, pillars, capitals, pedestals, vases, and other articles, from a substance not hitherto used for the purpose [bitumen, petroleum, or natural pitch of Trinidad].	13,698	22nd July 1851	Thomas Earl of Dundonald.
Manufacture of copings, columns, and other articles	13,788	23rd Oct. 1851	Henry Adcock.
Moulding, casting, ornamenting, and finishing } articles and surfaces - - - - }	13,791	29th Oct. 1851	{ William Adolphus Biddell. Thomas Green.
Compositions; machinery for pressing or moulding the same;—applicable to moulding or pressing other substances - - - - }	14,098	29th April 1852	{ John Hinks. Eugène Nicolle.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STONE-WORKING, &amp;c.—continued.</b>			
<b>III.—Making Artificial Stone.</b>			
Compound liquid metal by which artificial stone and marble is made, by casting the same into moulds of any form, as statues and capitals; also for housework, garden ornaments, and other sculpture work - - - - -	447	31st May 1722	{ Thomas Ripley. Richard Holt.
Staining, veining, spotting, clouding, and damasking on stone, to imitate marble, porphyry, and other stones and tortoiseshell.	461	28th Jan. 1724	Thomas Jones.
Manufacturing a certain composition stone, equally applicable in grinding corn and other articles as the millstones now generally used.	2098	11th March 1796	Major Pratt.
Certain Oriental aromatic chemical compositions or compounds, to be made and moulded into various forms, shapes, and ornamental devices, as amulets, in butterflies, birds, shells, and animals, and to be worn as an ornamental part of dress by ladies and gentlemen, as rings, brooches, lockets, pins, combs, bandaus, and other ornaments; "Ebenesamic and Ebengavin bosamic composition or compounds," or aromatic, variegated, artificial marbles and stones, opaque and transparent.	3053	16th June 1807	Robert Barlow.
Substance capable of being converted into artificial stone for making statues.	3260	29th Sept. 1809	John White.
Making artificial stone for various purposes - - -	3357	3rd July 1810	John Kent.
Method or process of imitating lapis-lazuli, porphyry, jasper, marble, and various other stones, for purposes of sculpture; also mosaic work used in the manufacture of chimney-pieces, slabs, monuments, and for other purposes to which the same are applicable.	3366	26th July 1810	Thomas Wade.
Application of earths and other materials to useful purposes [ <i>baking, partially vitrifying, and using as grindstones</i> ].	3727	31st July 1813	Joseph Hamilton.
Making a cement or composition for ornaments and statues, for making and cementing artificial bricks, tiles, and stones, and for erecting, covering, and decorating buildings; mixing, working, and moulding the same upon any sort of materials, or working and moulding entire erections and substances therewith.	4144	19th July 1817	Peter Hamelin.
Artificial granite, stone, marble, or concrete, in which neither asphaltic nor bituminous substances are used.	7991	6th March 1839	George Robert D'Harcourt.
Manufacturing artificial marble [ <i>for sculpturing</i> ] -	8227	27th Sept. 1839	Joseph Clinton Robertson.
Methods or processes for the manufacture of substances in imitation of marbles, stones, agates, and other minerals, of all forms and dimensions, applicable to objects both of use and ornament.	8702	12th Nov. 1840	Charles Dod.
Manufacture of artificial stone, cement, stucco, and other similar compositions.	8773	6th Jan. 1841	John Swindells.
Process, mode, or method of making or manufacturing lime, cement, artificial stone, and such other compositions; more particularly applicable for working under water, and in constructing buildings and other works which are exposed to damp.	8914	3rd April 1841	William Edward Newton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>STONE-WORKING, &amp;c.—continued.</b>			
Mastic or cement, which may be also employed as an artificial stone, and for coating metals and other substances.	9847	20th July 1843	Charles Bertram.
Plastic composition applicable to the fine arts and to useful and ornamental purposes.	9900	5th Oct. 1843	Margaret Henrietta Marshall.
Manufacture of artificial stone - - - -	10,802	29th Aug. 1844	Pryce Buckley Williams.
Manufacture of artificial stone for grinding and for other purposes.	10,860	22nd Oct. 1844	Frederick Ransome.
Manufacture of artificial stone [ <i>for statuary</i> ] - - -	10,562	17th March 1845	Pryce Buckley Williams.
Manufacture of artificial stone and marble - -	10,663	9th Oct. 1845	Edward Patrick Emerson.
Improvements partly applicable to the manufacture of artificial stone and marble - - - -	11,249	22nd June 1846	Spencer Thomas Garrett.
Producing artificial basaltic lavas - - - -	11,333	11th Aug. 1846	Jean Michel Borgognon.
Making a composition or artificial stone applicable to building and other useful purposes.	11,351	25th Aug. 1846	James Murdoch.
Manufacture of artificial stone - - - -	12,103	22nd March 1848	Joseph Orsi.
Artificial stone, mortar, and cements; modes of manufacturing the same.	13,071	7th May 1850	Joseph Gibbs.
Methods of imitating ivory and bone - - - -	13,137	19th June 1850	Benjamin Cheverton.
Manufacture of artificial marble and stone; treating marble and stone.	13,219	10th Aug. 1850	Selim Richard S' Clair Massiah.
Manufacture of artificial stone - - - -	13,763	2nd Oct. 1851	William Hodge.
Preparing compositions to be used in railway and other structures, instead of iron, wood, and stone.	13,941	31st Jan. 1852	Owen Williams.
Manufacture of imitation marbles, granites, and all sorts of stones.	14,019	8th March 1852	Thomas Ellison.
<b>IV.—Preserving Stone and Plaster.</b>			
Rendering stone and plaster or compositions more durable and less pervious to water, as may be required for various useful purposes.	7731	11th July 1838	John Bethell.
Treating stone to render it hard and impermeable -	11,325	10th Aug. 1846	François Teychenné.
Treating pasteboard and other substances, rendering them compact and impervious to wet, frost, vermin and other destructive agents.	11,979	25th Nov. 1847	William Hutchison.
Preserving animal and vegetable substances from decay [ <i>preserving porous stones, chalk, and plaster, also articles made therefrom</i> ].	12,250	21st Aug. 1848	John Bethell.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SUGAR MANUFACTURE.</b>			
<b>X.—Sugar-mills; extracting Saccharine Juices.</b>			
Making and framing sugar-mills [ <i>the invention of Davie De Meurato</i> ] - - - - -	141	4th Feb. 1663	{ Francis Lord Willoughby. Lawrence Hyde.
Engine for milling sugar-canes - - - - -	271	27th Aug. 1691	John Tyzacke.
Making sugar-mills - - - - -	433	17th July 1721	William Harding.
Constructing sugar-mills by application of friction-wheels to diminish the resistance arising by friction - - - - -	862	21st Nov. 1766	{ John Greenhill Yonge. Alexander Barclay.
Machine or stove-engine for boiling sugar or other articles which require to be boiled in large vessels.	1051	5th Aug. 1773	John Melvill.
Machine actuated by wheels for pressing sugar-canes and squeezing the juice therefrom.	1057	18th Dec. 1773	John Fleming.
Sugar-mills - - - - -	2019	30th Oct. 1794	John Collinge.
Machine applicable to mills in general, but more particularly to the cattle mills employed for expressing the juice of the sugar-cane, by greatly augmenting their power and execution, with fewer cattle, and by increasing tenfold the number of revolutions of the spindle and rollers, by means of a ring of wood or iron round the mill, a new construction of the axis in peritrochis, the lever, and a lantern-wheel or pinion, the teeth of which turn a cog-wheel on the spindle of the mill, and so constructed as to revolve together with two distinct motions, viz., a rotatory motion round their own axis, and a progressive circumvolutionary motion on the ring, and thus constantly act upon and impel the cog-wheel and spindle by their separate and united forces.	3021	7th March 1807	Henry Charles Christian Newman.
Obtaining saccharine matter from wheat, rye, oats, } barley, bear, or bigg - - - - -	4072	1st Nov. 1816	{ William Varley. Robert Hopwood Furness.
Cast-iron rollers for sugar-mills, by more permanently fixing them to their gudgeons.	4583	14th Aug. 1821	John Collinge.
Extracting sugar or syrups from cane-juice and other substances containing sugar.	5878	14th Dec. 1829	Charles Derosne.
Extracting sugar or syrups from cane-juice and other substances containing sugar.	6002	29th Sept. 1830	Charles Derosne.
Manufacturing beet-root and other vegetable substances to obtain saccharine matter therefrom.	7469	11th Nov. 1837	Henry Crosley.
Extracting the saccharine matters from sugar-canes and other substances of the like nature.	8107	17th June 1839	Edward Loos.
Sugar-cane mills - - - - -	8731	2nd Dec. 1840	James Robinson.
Extracting sugar or syrups from cane-juice and other substances.	10,389	9th Nov. 1844	Charles Derosne.
Extracting saccharine juices from the sugar-cane; machinery employed therein.	12,578	17th April 1849	Henry Bessemer.
Separating various matters usually found combined in saccharine, saline, and ligneous substances.	13,023	26th March 1850	Thomas Dickason Rotch.
Extraction and preparation of saccharine matters from vegetable substances; apparatus employed therein.	13,178	17th July 1850	Jean Jules Varillat.
Machinery for crushing sugar-canes - - - - -	13,709	5th Aug. 1851	Edward De Mornay.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SUGAR MANUFACTURE—continued.</b>			
Machinery for crushing sugar-canes - - -	18,710	5th Aug. 1851	Levi Bissell.
Extraction and preparation of saccharine matters from vegetable substances; apparatus to be employed therein.	13,745	11th Sept. 1851	William Jean Jules Varillat.
Improvements applicable, with certain modifications, to extracting saccharine and other matters, and to compressing in general.	13,916	24th Jan. 1852	Pierre Armand le Comte de Fontainemoreau.
Expressing saccharine fluids - - - -	13,988	24th Feb. 1852	Henry Bessemer.
Treating, preparing, and preserving roots and plants; extracting saccharine and other juices from roots and plants; treatment of such juices; processes, machinery, and apparatus employed therein.	14,143	29th May 1852	Adolphus Charles Von Herz.
<b>II.—Making and refining Sugar.</b>			
Melting and refining sugars and other things usually operated on by means of fire.	310	— — 1692	Anthony Forester Smith.
Constructing and setting boilers for sugar-houses and works.	1056	17th Nov. 1773	Christopher Chrisel.
Preparing blood so as to preserve the qualities useful in sugar-making.	1061	27th Jan. 1774	George Fordyce.
Refining sugar; making sugar from cane-juice -	1428	17th April 1784	William Bousie.
Refining sugar; making sugar from cane-juice -	1448	20th Aug. 1784	Robert Murray.
Refining and preparing sugars by steam - -	1492	27th July 1785	Sutton Thomas Wood.
Apparatus for clarifying cane-liquor, and drawing off the syrup instead of lading it, in making muscovado sugar.	1559	6th Oct. 1786	John Reeder.
Mill, machine or machinery suitable for whitening sugar, and which may be worked by water, wind, manual labour, steam, or by horses or other cattle.	1794	3rd March 1791	William Shorland.
Refining sugar - - - - -	2506	2nd June 1801	Thomas Wakefield.
Drying sugar; apparatus for the purpose - -	2639	2nd Aug. 1802	Charles Wyatt.
Refining sugars - - - - -	2866	8th July 1805	Benjamin Batley.
Boilers for manufacturing sugar; mode of fixing the same - - - - -	2958	20th Aug. 1806	{ Josias Robbins. James Curtis.
Process of refining sugars - - - - -	3261	23rd Sept. 1809	George Vaughan.
Refining sugar and forming sugar-loaves - -	3338	17th May 1810	James Bell.
Refining sugars - - - - -	3541	27th Feb. 1812	Louis Honoré Germain Constant.
Preparing and refining sugars - - - - -	3607	31st Oct. 1812	Edward Charles Howard.
Preparing and refining sugars - - - - -	3754	20th Nov. 1813	Edward Charles Howard.
Construction of copper and iron sugar-pans and sugar-boilers; hanging the same; construction of furnaces in which the same ought to be placed.	3771	20th Dec. 1813	John Sutherland.
Refining and clarifying certain vegetable substances { sugar, by means of animal or vegetable charcoal, earths and ochres } - - - - -	3912	8th May 1815	{ John Martineau, junior. Peter Martineau, junior.
Purifying and refining sugar - - - - -	3933	22nd June 1815	John Taylor.
Expelling the molasses of syrup out of refined sugars.	3978	3rd Feb. 1816	John George Duke.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SUGAR MANUFACTURE—continued.</b>			
Expelling molasses from sugars - - - -	4048	27th July 1816	John Hague.
Preparing, clarifying, and refining sugar and other vegetable, animal, and mineral substances; machinery and utensils used therein.	4093	23rd Jan. 1817	Joseph De Cavaillon.
Process of boiling and refining sugar - - -	4095	23rd Jan. 1817	Daniel Wilson.
Preventing any disadvantageous accumulation of heat in manufacturing and refining sugar.	4130	3rd June 1817	Charles Wyatt.
Expelling molasses and syrup from sugars; refining sugars.	4181	28th Nov. 1817	John Hague.
Process of boiling and refining sugar - - -	4220	3rd Feb. 1818	Daniel Wilson.
Making cast-iron boilers for evaporating the juice of sugar-cane [ <i>annealing them in a furnace</i> ].	4276	11th July 1818	John Baird.
Extracting the molasses or syrup from muscovado or other sugar [ <i>by absorbing it into cloth</i> ].	4447	15th April 1820	Major Rohde.
Clarifying and refining sugar - - - -	4528	15th Jan. 1821	John Frederick Daniell.
Crystallization and evaporation of fluids by a } peculiar application of air, mechanically - - }	4674	9th May 1822	{ Richard Knight. Rupert Kirk.
Apparatus for boiling sugar - - - -	4805	19th June 1823	James Smith.
Manufacturing sugar from cane-juice; refining sugar and other substances.	4949	6th May 1824	William Cleland.
Bleaching, clarifying, and improving the quality and colour of bastard and piece sugars.	5127	15th March 1825	Joseph Barlow.
Refining sugar [ <i>by potash and fullers' earth</i> ] - -	5222	26th July 1825	Charles Freund.
Refining sugar [ <i>by passing rectified spirits through it</i> ]	5272	22nd Oct. 1825	Henry Constantine Jennings.
Refining sugar - - - -	5488	28th April 1827	Morton William Lawrence.
Process of preparing, refining, and evaporating sugar.	5520	4th July 1827	William Cleland.
Boiling, burning, clarifying, or preparing raw or muscovado bastard sugar and molasses [ <i>by charcoal and hydraulic pressure</i> ].	5555	11th Oct. 1827	James Stokes.
Apparatus for the better manufacture of sugar from the canes [ <i>crystallizing by the application of high-pressure steam to the external surface of sugar-pans</i> ] - - - -	5572	4th Dec. 1827	{ William Fawcett. Matthew Clark.
Boiling or evaporating solutions of sugar and other liquors.	5635	29th March 1828	John Davis.
Machinery or apparatus for making moulds or vessels for refining sugar; application of materials hitherto unused for making the said moulds [ <i>stoneware clay, glazed</i> ] - - - -	5657	17th May 1828	{ Thomas Powell. William Powell. John Powell.
Evaporating sugar;—applicable to other purposes [ <i>by blowing currents of air through the liquids</i> ].	5718	27th Nov. 1828	William Godfrey Knelier.
Expelling molasses or syrup from sugar [ <i>by exhaustion or condensation of air</i> ].	5725	6th Dec. 1828	John Hague.
Condenser used in boiling and evaporating solutions of sugar and other liquids.	5785	28th April 1829	John Davis.
Process or method of whitening sugar [ <i>by water percolating through the sugar</i> ].	5824	1st Aug. 1829	Joshua Bates.
Concentrating and evaporating cane-juice, solutions of sugar, and other fluids.	5848	15th Sept. 1829	John Aitchison.
Manufacture of sugar from vegetable productions [ <i>from carrots, turnips, &amp;c., by means of diluted acid</i> ].	5877	14th Dec. 1829	Benjamin Goulson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SUGAR MANUFACTURE—continued.</b>			
Extracting sugar or syrups from cane-juice and other substances containing sugar; refining sugar and syrups [ <i>refining by charcoal</i> ].	5878	14th Dec. 1829	Charles Derosne.
Apparatus for granulating sugar - - - -	5918	6th March 1830	Thomas Richard Guppy.
Purifying and whitening sugar or other saccharine matter [ <i>by forcing water through it from a super-incumbent column</i> ] - - - -	5945	29th June 1830	{ Edward Turner. William Shand.
Apparatus used for certain processes of extracting molasses or syrup from sugar [ <i>for drawing water through the sugar by means of a vacuum beneath</i> ].	5946	29th June 1830	Moses Poole.
Manufacturing sugar - - - - -	5982	24th July 1830	Abraham Garnett.
Process of making and purifying sugars - - -	5975	5th Aug. 1830	Marmaduke Robinson.
Extracting sugar or syrups from cane-juice and other substances containing sugar; refining sugar and syrups [ <i>refining by charcoal</i> ].	6002	29th Sept. 1830	Charles Derosne.
Preparing and making sugar - - - - -	6009	13th Oct. 1830	William Augustus Archbald.
Cleansing raw or coarse sugar - - - - -	6015	20th Oct. 1830	Andrew Ure.
Fabrication or preparation of a coal for refining and purifying sugar and other matters; restoring the coal which has served for that purpose [ <i>a composition made from bones, earthy matter, and alkaline salts</i> ].	6057	23rd Dec. 1830	Marie Elizabeth Antoinette Pertina.
Refining and clarifying sugar - - - - -	6068	31st Jan. 1831	Joshua Bates.
Rendering certain apparatus applicable for making or refining sugar.	6107	14th April 1831	Thomas Brunton.
Making and purifying sugars - - - - -	6144	27th July 1831	Marmaduke Robinson.
Apparatus for the manufacture and refining of sugar and other extracts;—applicable to other purposes - - - - -	6353	21st Dec. 1832	{ William Gutteridge. George Stevens.
Apparatus for boiling syrups for the production of sugar.	6440	20th June 1833	William Newton.
Making and refining sugar - - - - -	6442	26th June 1833	{ Charles Terry. William Parker.
Making sugars - - - - -	6569	27th Feb. 1834	William Augustus Archbald.
Clarifying raw cane-juice and other vegetable and saccharine juices; bleaching such raw cane-juices.	6693	1st Sept. 1835	James Fergusson Saunders.
Making and refining sugar - - - - -	7083	5th May 1836	Edmund Pontifex.
Manufacturing sugars from beet-root and other substances.	7154	18th June 1836	William Watson.
Manufacture of sugars - - - - -	7231	22nd Nov. 1836	{ George Gwynne. James Young.
Filters employed in sugar-refining - - - -	7289	24th Jan. 1837	Julius Oliver.
Making sugar - - - - -	7438	30th Sept. 1837	Francis Hoard.
Making sugar from sugar-cane; refining sugar -	7573	24th Feb. 1838	Edward Stolle.
Concentrating certain vegetable juices and saccharine solutions.	7587	8th March 1838	Morton William Lawrence.
Filters employed in sugar-refining - - - -	7601	26th March 1838	Julius Oliver.
Making and refining sugars - - - - -	7796	6th Sept. 1838	Miles Berry.
Making and refining sugars - - - - -	8147	6th July 1839	John Fairrie.
Refining sugar - - - - -	8148	6th July 1839	Peter Rothwell Jackson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SUGAR MANUFACTURE—continued.</b>			
Battery or arrangement of apparatus for the manufacture of sugar.	8258	7th Nov. 1839	Henry Crosley.
Filters [ <i>filtering sugar</i> ] - - - - -	8675	2nd Nov. 1840	Herman Schroeder.
Apparatus for making sugar - - - - -	8781	2nd Dec. 1840	James Robinson.
Manufacture of sugar-moulds - - - - -	8952	6th May 1841	Philemon Augustine Morley.
Manufacture of sugar - - - - -	9162	23rd Nov. 1841	William Manwaring.
Refining or manufacturing sugar - - - - -	9522	25th Nov. 1842	{ Felix Napoleon Target. Leon Castelain. Adolphe Aubril.
Construction of machinery for manufacturing sugar	9533	3rd Dec. 1842	Don Pedro Pouchant.
Manufacture of sugar and the products of sugar -	9574	28th Dec. 1842	{ Henry Crosley. George Stevens.
Crystallizing and purifying sugar - - - - -	9584	11th Jan. 1843	William Ritter.
Machinery employed in the manufacture of sugar -	9898	5th Oct. 1843	Lawrence Hardman.
Purification and clarification of sugar;—applicable to the purification or clarification of other articles.	10,125	28th March 1844	Joseph Cooper.
Manufacture of sugar - - - - -	10,171	30th April 1844	John Constable.
Construction of boilers for evaporating crystalline solutions - - - - -	10,221	6th June 1844	{ William Higham. David Bellhouse.
Steam machinery and apparatus for the manufacture and refining of sugar.	10,345	10th Oct. 1844	Henry Oliver Robinson.
Machinery for the manufacture of sugar - - -	10,351	17th Oct. 1844	Peter Borrie.
Refining sugar and syrups - - - - -	10,389	9th Nov. 1844	Charles Derosne.
Apparatus for boiling sugar-cane juice and other liquids.	10,418	5th Dec. 1844	John Ronald.
Manufacture of sugar - - - - -	10,474	16th Jan. 1845	Augustus William Gadsden.
Processes and machinery for making and refining sugar.	10,505	31st Jan. 1845	James Johnston.
Manufacture of sugar - - - - -	10,510	4th Feb. 1845	Henry Nibbs Browne.
Apparatus used in the manufacture of sugar [ <i>sugar-pans or coppers</i> ].	10,557	13th March 1845	Robert Barr Purbrick.
Manufacture of sugar - - - - -	10,740	26th June 1845	Bower S <sup>r</sup> Clair.
Manufacture and refining of sugar - - - - -	10,817	14th Aug. 1845	Hypolite Louis François Salembier.
Manufacture of sugar - - - - -	10,818	21st Aug. 1845	{ Henry Pearse. William Dimadale Child.
Refining sugar - - - - -	10,950	18th Nov. 1845	Richard Wright.
Moulding sugar - - - - -	10,960	20th Nov. 1845	Frederick Gye.
Manufacture of sugar; machinery and apparatus employed therein.	11,158	3rd April 1846	Henry Crosley.
Refining sugar - - - - -	11,280	7th July 1846	Richard Wright.
Manufacture of sugar - - - - -	11,312	23rd July 1846	Alfred Vincent Newton.
Making and refining sugar; machinery and apparatus employed therein.	11,370	10th Sept. 1846	Charles Richardson.
Manufacture of sugar - - - - -	11,722	27th May 1847	James Johnstone.
Materials for purifying or decolorizing bodies;—which materials may also be employed as manure and pigments, and for other purposes [ <i>materials for purifying sugar, &amp;c.</i> ].	11,790	12th July 1847	Robert William Sievier.
Manufacture of sugar - - - - -	11,863	9th Sept. 1847	Frederick Steiner.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SUGAR MANUFACTURE—continued.</b>			
Manufacture of sugar - - - - -	11,920	21st Oct. 1847	{ Patrick Playfair. Laurence Hill, junior.
Process, apparatus, and machinery for making sugar.	11,954	9th Nov. 1847	Henry Krebs Claypole.
Manufacture and refining of sugar - - - - -	11,991	8th Dec. 1847	John Scoffern.
Manufacture of sugar from the cane - - - - -	12,033	18th Jan. 1848	William Newton.
Manufacture of sugar from the cane; refining raw sugar.	12,218	18th July 1848	Joham Arnold Steinkamp.
Manufacture of sugar [ <i>application of electricity in the clarification of sugar</i> ].	12,335	21st Nov. 1848	William Hood Clement.
Manufacture of sugar; machinery employed therein	12,578	17th April 1849	Henry Bessemer.
Manufacture of sugar - - - - -	12,580	26th April 1849	{ Robert Oxland. John Oxland.
Manufacturing and refining sugar or saccharine matters - - - - -	12,617	24th May 1849	{ Rees Reece. Astley Paston Price.
Crystallization of syrups and saline solutions - -	12,730	1st Aug. 1849	James Murdoch.
Making and refining sugar - - - - -	12,749	23rd Aug. 1849	Alfred Vincent Newton.
Processes and machinery employed in and applicable to the manufacture of sugar.	12,808	12th Oct. 1849	Conrad William Finzel.
Manufacture of sugar - - - - -	12,844	14th Nov. 1849	Charles Cowper.
Manufacture of sugar - - - - -	12,858	20th Nov. 1849	Charles Cowper.
Manufacture and refining of sugar - - - - -	12,888	12th Dec. 1849	William Birkmyre.
Apparatus for evaporating saccharine and other liquors.	12,990	17th Jan. 1850	Henry Cowing.
Manufacture and refining of sugar; treatment and use of matters obtained in such manufacture.	12,977	21st Feb. 1850	John Scoffern.
Manufacture of sugar - - - - -	12,981	27th Feb. 1850	George Gwynne.
Apparatus for the manufacture of sugar - - - -	13,014	23rd March 1850	William Joseph Curtis.
Manufacturing and refining sugar - - - - -	13,093	1st June 1850	{ Frank Clarke Hilla. George Hilla.
Refining and preparing sugar - - - - -	13,147	24th June 1850	Robert Andrew Macfie.
Manufacturing, refining, and preparing sugar; manufacturing and treating animal charcoal.	13,149	24th June 1850	Robert Andrew Macfie.
Apparatus acting by centrifugal force in the manufacture of sugar; treatment of saccharine matter by such apparatus.	13,202	31st July 1850	Henry Bessemer.
Manufacturing and refining of sugar - - - - -	13,288	17th Oct. 1850	Daniel Towers Shears.
Manufacture of sugar - - - - -	13,416	19th Dec. 1850	Philip Nind.
Manufacture of sugar - - - - -	13,428	27th Dec. 1850	John Mathison Fraser.
Machinery used in sugar manufacturing - - - -	13,490	3rd Feb. 1851	Alexander Alliott.
Manufacture and refining of sugar; machinery used in such manufacture for producing a vacuum.	13,560	20th March 1851	Henry Bessemer.
Manufacture of sugar - - - - -	13,582	24th March 1851	Matthew Herring.
Machinery for pumping, forcing, and exhausting steam, fluids, and gases; adaptation thereof to the saturation, separation, and decomposition of substances [ <i>centrifugal separating apparatus for sugar-making</i> ].	13,577	31st March 1851	John Gwynne.
Manufacturing and refining sugar - - - - -	13,591	15th April 1851	Herman Schroder.
Manufacture and refining of sugar - - - - -	13,634	15th May 1851	{ Robert Oxland. John Oxland.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SUGAR MANUFACTURE—continued.</b>			
Machinery, apparatus or means for the manufacture or production of sugar.	13,689	7th July 1851	James Buchanan Mirrlees.
Apparatus for evaporating saccharine fluids - -	13,709	5th Aug. 1851	Edward De Mornay.
Manufacture of sugar; preparation of certain substances for such manufacture; machinery and apparatus employed therein.	13,846	8th Dec. 1851	Richard Archibald Brooman.
Manufacturing, refining, and treating of sugar -	13,986	24th Feb. 1852	Henry Bessemer.
Vacuum-pans for the evaporation and crystallization of saccharine or other solutions.	14,141	25th May 1852	Joseph Walker, junior.
Manufacture of raw and refined sugar - - -	14,168	12th June 1852	Joseph Brandeis.
Manufacture of sugar - - - - -	14,233	20th July 1852	John Francis Egan.
Manufacture, refining and treating of sugar - -	14,239	24th July 1852	Henry Bessemer.
Manufacturing and refining sugar [ <i>evaporating and concentrating</i> ].	14,293	18th Sept. 1852	John Macintosh.
Manufacture of sugar; machinery and apparatus employed therein.	14,318	7th Oct. 1852	Richard Archibald Brooman.
Manufacturing and refining sugar - - - -	14,354	21st Dec. 1852	Robert Galloway.
<b>III.—Cutting and pounding sugar.</b>			
Mill, machine or machinery for powdering and whitening of every sort of sugar, such mill, machine or machinery to be worked either by water, wind, manual labour, steam, or by horses or any other cattle.	1790	3rd March 1791	William Shorland.
Manufacturing powder sugar from raw sugar alone, or syrup of sugar alone, or both mixed.	2899	26th Nov. 1805	James Ingram.
Means of producing steel sugar-nippers and other articles.	3407	6th March 1811	Abraham Willis.
Cutting, shaving, or scraping sugar-loaves and lumps; pulverizing sugar-loaves, lumps, and bastard sugar.	3425	26th March 1811	James Bell.
Machinery for breaking or crushing sugar - -	4344	23rd Feb. 1819	Thomas Brocksopp.
Apparatus for cutting and dividing sugar - -	10,570	18th March 1845	Francis Molineux.
Apparatus for dividing lump sugar - - -	10,755	3rd July 1845	William Symes.
Mechanism for reducing, grinding, and sifting sugar and other substances.	12,058	8th Feb. 1848	Luke Hebert.
Apparatus for cutting or breaking lump sugar and other vegetable substances.	12,936	29th Jan. 1852	William Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>SULPHUR.</b>			
Extracting and preserving sulphur contained in mundic, and which at present is of no advantage to the owners, but, on the contrary, an incumbrance on the land where it lies; which sulphur, by proper preparation and refining, will answer the end of that imported from abroad.	523	2nd Nov. 1730	Samuel Hutchins.
Reducing sulphureous British minerals into a body of metallic sulphur.	564	1st July 1738	William Champion.
Extracting mineral sulphur from pyrites, also from copper and lead ores.	1203	21st Dec. 1778	Matthew Sanderson.
Extracting sulphur from lead-glitter, blue-stone, and iron ores.	1243	5th Feb. 1780	Matthew Sanderson.
Obtaining sulphur from pyrites or certain native sulphurets - - - - -	8094	6th June 1839	{ Harrison Grey Dyar. John Chisholm.
Manufacture of sulphur - - - - -	8149	11th July 1839	Edward François Duclos.
Treating pyrites to obtain sulphur and other products.	8366	25th Feb. 1840	Thomas Farmer.
Extracting sulphur from pyrites and other substances.	8562	8th July 1840	James Harvey.
Separation of sulphur from various mineral substances.	9566	12th Jan. 1843	Julian Edward Dishbrowe Rodgers.
Obtaining products from sulphurets and other compounds containing sulphur.	10,207	30th May 1844	John Lee.
Manufacturing sulphur - - - - -	12,264	4th Sept. 1848	Richard Laming.
Manufacture of sulphur - - - - -	12,333	21st Nov. 1848	{ Alexander M'Dougal. Henry Rawson.
Improvements applicable in obtaining or in separating certain products or materials from gas-water and other similar fluids [ <i>sulphur</i> ].	12,975	21st Feb. 1850	William Cormack.
Manufacture of sulphur from sulphates of barytes and strontia.	13,556	15th March 1851	Herbert Taylor.
Treatment of metallic ores and certain salts and residuary matters; obtaining products therefrom [ <i>sulphur</i> ].	13,967	23rd Feb. 1852	Samuel Boulton.
Treating the residual products of gas, and of the distillation of coal or other similar substances, and of the coking of coal [ <i>obtaining sulphur</i> ].	14,260	12th Aug. 1852	Richard Laming.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>T.</b>			
<b>TANNING AND PRESERVING; TREATMENT OF SKINS; CURRIERY.</b>			
<b>I.—Shearing Peltry.</b>			
Engine for the better and more expeditious cutting the wool from beaver, coney, and hare skins, in order to make hats.	436	9th Sept. 1721	John Watlington.
Taking wool from off sheep skins - - - -	735	24th Jan. 1759	Christopher Lebrecht Chrysel.
Method of taking off the wool or fur from seal and other skins, in a more perfect state than has hitherto been done, for the purpose of manufacturing the same into hats or any other article of clothing, whereby the skins or pelts are less damaged than by any other process yet adopted, and are kept and preserved in a perfect state for the purpose of tanning into any kind of leather.	2317	6th June 1799	Thomas Chapman.
Machinery for cutting, stripping, or plucking furs of beavers and seals, also wool, hair, &c., from skins now cut and stripped by hand; preparing and cleansing such skins.	3804	19th Dec. 1804	Richard Willcox.
Machinery for cutting furs from skins of animals -	3222	3rd April 1809	Richard Willcox.
Machine for cutting furs from skins or pelts -	3375	7th Sept. 1810	Joseph Chesborough Dyer.
Machine for cutting the fur from all peltries -	3412	12th March 1811	James Mallory.
Machine for cutting fur from peltry - - -	3550	24th March 1812	William Henry Hart.
Machine for cutting furs from skins, also for shaving pelts.	4825	31st July 1823	John Bainbridge.
Machinery for removing hair or fur from skins [by a grinding cylinder].	4872	22nd Nov. 1823	John Slater.
Machine for cutting fur from skins, for the use of hatters [cant twist blades fur-cutter].	5669	3rd July 1828	John Baring.
Machinery for removing wool or hairs from skins [rotary pincers].	6029	4th Nov. 1830	Alexander Bell.
Machine for cutting off the hair or fur from beaver and other skins.	6244	15th March 1832	John Walmsley.
Fur-cutting machine - - - - -	6538	13th Jan. 1834	Frederick Plant.
Unhairing skins - - - - -	18,837	1st Dec. 1851	George Laycock.
<b>II.—Making Tan-pits.</b>			
Construction of tan-yards for tanning leather -	1763	17th July 1790	Anthony Fay.
Construction of tan-pits, and utensils appertaining to the same.	2159	27th Jan. 1797	James Murphy.
Tan-pit - - - - -	2179	26th April 1797	Robert Cross.
Constructing tan-pits for tanning hides and skins, and for striking hides by machinery.	2486	27th March 1801	Gottlob Frederic Lenz.
Constructing tan-pits for tanning hides and skins, and for striking hides by machinery.	2516	18th June 1801	Gottlob Frederic Lenz.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TANNING, &amp;c.—continued.</b>			
<b>III.—Preparing, tanning, making, and dressing skins and leather.</b>			
Tanning, tawing, dressing, and preparing raw hides and skins, and making the same into leather.	150	27th Oct. 1660	Charles Howard.
Engine for oiling and dressing leather - - -	271	27th Aug. 1691	John Tyzacke.
Tanning skins for leather and making imitation Russia leather - - - - -	309	— — 1692	{ Robert Doughty. John Tyzacke. Tobias Le Grosser. Richard Barry. James Mell.
Damasking, striking and fixing colours in leather -	348	14th Dec. 1695	{ Thomas Mathews. Thomas Ferrers.
Milling raw hides and skins, so as to be equally good for leather as if tanned.	893	29th Feb. 1768	George Merchant.
Tanning leather - - - - -	858	23rd May 1770	John Johnson.
Dressing and preparing leather with turned feet, for boots, half-boots, spatterdashes, or gaiters; preparing leather for shoes - - - - -	1503	3rd Nov. 1785	{ Joseph Willis. William Saunders.
Tanning leather - - - - -	1763	17th July 1790	Anthony Fay.
Tanning hides and skins - - - - -	1877	16th Jan. 1794	Samuel Ashton.
Method of tanning and making leather of a superior quality, and in a much shorter period of time than hath hitherto been done.	2051	12th May 1795	John Tucker.
Manufacture for tanning - - - - -	2054	2nd June 1795	George Hawkes.
Tanning hides and skins - - - - -	2080	15th Jan. 1796	William Desmond.
Tanning hides and skins - - - - -	2159	27th Jan. 1797	James Murphy.
Tanning leather - - - - -	2179	26th April 1797	Robert Cross.
Making Spanish or Morocco leather from horse hides.	2286	4th Jan. 1799	William Alison.
Tawing, dressing or converting kid, goat, sheep, and lamb skins into gloves and mittens, without lime and bran.	2293	5th Feb. 1799	Joseph Watts.
Dressing and preparing skins for making leather -	2310	27th April 1799	James Knowles.
Tanning hides and skins - - - - -	2319	18th June 1799	Francis Brewin.
Set of machinery for a tannery - - - - -	2409	10th June 1800	Joseph Weekes.
Converting skins of parchment and vellum into leather.	2442	15th Sept. 1800	James Hitchcock.
Striking hides by machinery - - - - -	2486	27th March 1801	Gottlob Frederic Lenz.
Machine to beam or work green hides out of the drench, and make them fit for bark liquor.	2505	21st May 1801	Thomas Bagnall.
Machinery for striking hides - - - - -	2516	18th June 1801	Gottlob Frederic Lenz.
Tanning - - - - -	2550	3rd Nov. 1801	Francis Brewin.
Tanning and dressing hides and skins - - -	2613	19th April 1802	Thomas Martin.
Tanning - - - - -	2618	10th May 1802	John Lawrence.
Tanning leather - - - - -	2624	31st May 1802	{ John Cant. John Millar.
Tanning leather, except backs and bins, without the use or application of bark or mineral astringent.	3038	28th April 1807	Robert John Stanley.
Frame for stretching leather in width - - -	3111	3rd March 1808	Samuel Thomson.
Tanning leather by the use of pyroligneous or wood acid - - - - -	3521	20th Jan. 1812	{ Andrew Patten. Charles Hankinson.
Tanning or dressing white, buff, or losh leather -	3719	14th July 1813	Alexander Moody.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TANNING, &amp;c.—continued.</b>			
Mode of giving durability to certain descriptions of leather.	3791	12th March 1814	Marc Isambard Brunel.
Tanning leather. - - - - -	3795	28th March 1814	John Sparks Moline.
Machine for striking and finishing leather - -	3947	4th Aug. 1815	Joseph Harvey.
Mode of making leather - - - - -	3957	9th Sept. 1815	Thomas Ashmore.
Improvements in the art of making leather - -	4205	23rd Jan. 1818	Hugh Ronalds.
Tanning and tawing hides and skins - - -	4274	22nd June 1818	John Neilson.
Preserving or curing raw hides and skins, by the application of materials hitherto unused for the purpose.	4326	4th Jan. 1819	Charles Tanner.
Tanning and tawing hides and skins - - -	4380	19th June 1819	John Neilson.
Tanning hides and skins - - - - -	4390	10th July 1819	William Good.
Tanning [by pressure] - - - - -	4784	22nd April 1823	Francis Gybbon Spilsbury.
Preparing and dressing sheep-skins and lamb-skins with the wool on, for rugs for carriages, rooms, and for other purposes.	4818	24th July 1823	Richard Gill.
Tanning hides and skins - - - - -	4894	19th Jan. 1824	Howard Fletcher.
Tanning [by aid of a vacuum] - - - - -	5397	1st Aug. 1826	{ Thomas John Knowlys. William Duesbury.
Tanning skins - - - - -	6011	20th Oct. 1830	François Constant Jacquemart.
Tanning hides and skins - - - - -	6178	7th Oct. 1831	William Drake.
Producing leather from hides and skins - - -	6403	28th March 1833	Charles Terry.
Making or producing leather from hides and skins -	6533	21st Dec. 1833	John Paul Newman.
Converting hides and skins into leather, by the application of matter obtained from a material not hitherto used for that purpose [wood of the black-berry bush].	6913	22nd Oct. 1835	William Patterson.
Processes of tanning - - - - -	6977	11th Jan. 1836	Francis Brewin.
Tanning hides and skins of certain descriptions -	7008	18th Feb. 1836	Frederick Chaplin.
Tanning hides and skins - - - - -	7183	15th Sept. 1836	William Hinckes Cox.
Tanning hides and skins - - - - -	7202	6th Oct. 1836	Samuel Tonkin Jones.
Process of tanning - - - - -	7478	16th Nov. 1837	{ William Herapath. James Fitchew Cox.
Tanning - - - - -	7984	28th Feb. 1839	Moses Poole.
Surface for vellum and parchment - - - - -	8324	21st Dec. 1839	George Lindsay Young.
Preparing skins and other animal matters for tanning.	8478	16th April 1840	William Henry Bailey Webster.
Preparing skins and other animal matters for tanning.	8718	25th Nov. 1840	William Henry Bailey Webster.
Tanning and dressing or currying skins - - -	8857	22nd Feb. 1841	Moses Poole.
Preparing skins for tanning - - - - -	8958	23rd Feb. 1841	John Dean.
Operations of tanning - - - - -	8880	16th March 1841	Robert Warington.
Unhairing, mastering, and tanning hides and skins with expedition.	8907	29th March 1841	James Furnival.
Curing hides and skins; tanning, washing, and cleaning hides, skins, and other matters.	8980	10th June 1841	Henry Richardson Fanshawe.
Machinery or apparatus for and process of tanning skins or hides, and preparing or operating upon vegetable or other substances - - - - -	9079	8th Sept. 1841	{ Edward Loos de Scholstadt. Etienne Sterlingue.
Manufacture of leather - - - - -	9164	2nd Dec. 1841	Robert Wilson.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TANNING, &amp;c.—continued.</b>			
Tanning - - - - -	9199	21st Dec. 1841	John Cox.
Preparing skins and hides, and converting them into leather.	9919	13th Jan. 1842	Julius Bordier.
Preparing hides and skins in the manufacture of certain descriptions of leather.	9739	25th May 1843	John Nisbett.
Manufacture of leather - - - - -	9923	2nd Nov. 1843	Frederick Isaac Welch.
Manufacture of leather and gelatine - - - - -	10,042	8th Feb. 1844	{ John Cox. George Cox.
Making certain skins resemble sable fur - - - - -	10,081	26th Feb. 1844	Isabella Larbalestier.
Tanning hides and skins - - - - -	10,242	3rd July 1844	Charles Nossiter.
Tanning hides and skins - - - - -	10,331	26th Sept. 1844	Alexander Turnbull.
Tanning hides and skins - - - - -	10,368	29th Oct. 1844	Thomas Squire.
Manufacture of leather - - - - -	10,466	11th Jan. 1845	Thomas Keasley.
Tanning and leather-dressing - - - - -	10,477	16th Jan. 1845	{ John Cox. George Cox.
Manufacture of leather - - - - -	10,678	22nd May 1845	Edward Wilkins.
Dressing furs and skins - - - - -	10,704	3rd June 1845	Pierre Thirion.
Tanning hides and skins - - - - -	10,744	28th June 1845	Simon Snyder.
Manufacture of leather - - - - -	10,874	10th Oct. 1845	Charles Nossiter.
Machinery for preparing skins for tanning and dressing.	10,900	31st Oct. 1845	Denis Jonquet.
Operation of tanning - - - - -	11,142	25th March 1846	Robert Warrington.
Manufacture of losh hide-leather, and other oiled leather.	11,735	8th June 1847	Samuel Ellen.
Tanning hides and skins - - - - -	12,035	20th Jan. 1848	John Duncan.
Manufacture and application of leather - - - - -	12,466	8th Feb. 1849	Thomas Charles Clarkson.
Mode of preparing leather - - - - -	12,470	12th Feb. 1849	William Harris.
Tanning hides and skins - - - - -	12,618	24th May 1849	Andrew Crosse.
Manufacture of leather - - - - -	12,660	14th June 1849	Michael John Haines.
Manufacturing leather [ <i>tanning hides and skins</i> ] - - - - -	12,846	17th Nov. 1849	Alfred Vincent Newton.
Dressing, embossing, and ornamenting leather - - - - -	13,589	15th April 1851	Frederick William East.
Use and treatment of peat and its products, and other carbonaceous matters; apparatus applicable to such and other chemical purposes [ <i>obtaining greases and resino-adipose wax for currying and polishing leather</i> ].	13,590	15th April 1851	Benson Stones.
Manufacture of leather - - - - -	13,621	3rd May 1851	James Pyke.
Manufacture of leather or dressed skins, and of materials to be used in lieu thereof; machinery or apparatus to be employed in such manufacture.	13,808	13th Nov. 1851	Julian Bernard.
Tanning skins - - - - -	13,837	1st Dec. 1851	George Laycock.
Preparation and preservation of skins, and animal and vegetable substances.	14,009	8th March 1852	Charles Augustus Proller.
Dressing leather [ <i>by the application of cod-liver oil and blubber</i> ].	14,199	6th July 1852	William Tanner.
Tanning - - - - -	14,311	30th Sept. 1852	Edouard Moride.
Preservation of japanned leather - - - - -	14,350	1st Dec. 1852	Pierre Jules Lamaille.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TANNING, &amp;c.—continued.</b>			
<b>IV.—Cutting, splitting, and shaving Hides and Leather.</b>			
Splitting and dividing sheep's pelts and other skins, and rendering the grain and upper part more useful for binding books and for other purposes of trade, while the under part may be wrought into leather.	500	16th April 1768	William Powers.
Machine for splitting, cutting, paring, or dividing in length and breadth, hides, skins, and leather.	1153	26th April 1777	Thomas Crowley.
Engine to cut, split, and divide asunder, the flesh side from the grain side of hides, skins, and leather - - - - -	1380	26th July 1783	{ Thomas Crowley. Thomas Merry.
Machine for cutting, splitting, and dividing hides and skins, or leather.	1382	7th Aug. 1783	George Choumert.
Machine for paring, trimming, friezing, and grounding leather, used in manufacturing gloves, breeches, and shoes, and for binding books; cutting out shoes, slippers, gloves, mits, and muffs, and embellishing the same with ornaments, in gold, silver, and colours.	1526	31st Jan. 1786	John Bull.
Machinery for splitting hides, skins, pelts, and leather	2925	26th March 1806	{ William Parr. Richard Bevington. Samuel Bevington.
Machinery for splitting or paring skins - - -	3105	30th Jan. 1808	William Newberry.
Splitting raw hides - - - - -	3178	3rd Nov. 1808	Samuel Brookes.
Splitting hides and shaving leather - - -	3347	19th June 1810	Joseph Warren Revere.
Machine for cutting pelts into strips or small pieces	3375	7th Sept. 1810	Joseph Chesseborough Dyer.
Splitting hides, shaving or splitting leather - -	3420	26th March 1811	Joseph Chesseborough Dyer.
Machine for shaving and preparing leather for making wire-cards.	5309	9th Dec. 1825	Joseph Chesseborough Dyer.
Machine for splitting hides and skins - - -	5716	9th Oct. 1828	Henry Duxbury.
Cutting leather, hides, and similar substances, to render them applicable to various purposes.	7004	16th Feb. 1836	Joshua Procter Westhead.
Machinery for cutting or shaping leather - - -	9529	3rd Dec. 1842	Thomas Mansell.
Machinery for splitting and cutting skins and hides	10,414	2nd Dec. 1844	Rene Joseph le Comte du Colombier.
Forming leather into tubes, cylinders, switches, cases, sheaths, hats, and other articles [cutting and splitting] - - - - -	11,413	15th Oct. 1846	{ François Durand. Onesiphore Pecqueur.
<b>V.—Making Artificial Leather.</b>			
Manufacturing from leather, leather cuttings, shavings or parings, and whit-leather, a leather for covering coaches, chariots, post-chaises, sedan-chairs, and trunks, and for making band, hat, and other boxes, waiters and tea-trays, inkstands, inkpots, snuff and tobacco-boxes, mouldings, cornices, ceilings, and other ornaments for rooms, also for binding books.	1723	20th Jan. 1790	Samuel Hooper.
Preparing a substitute for leather [cloth or felt dressed with glue, oil, &c.]	4908	28th Feb. 1824	John Gunby.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TANNING, &amp;c.—continued.</b>			
Making an article as a substitute for leather;—applicable to various other purposes.	5045	29th Nov. 1824	Thomas Hancock.
Manufacture to be used as a substitute for leather, and otherwise.	5120	15th March 1825	Thomas Hancock.
Composition applicable to certain fabrics, from which may be manufactured boots, shoes, and other articles [ <i>artificial leather</i> ].	5775	10th March 1829	Richard Hall.
Combination of fibrous materials, forming, by machinery, artificial skins, applicable to the purposes for which skins, leather, vellum, and parchment are used.	6387	14th Feb. 1833	Thomas Robinson Williams.
Substitute for leather - - - - -	8039	20th April 1839	{ John Potter. William Horsfall.
Combination of materials as a substitute for leather, and other useful purposes.	11,093	17th Feb. 1846	Jacque Kloet.
Rendering certain materials applicable as a substitute for leather in various articles of manufacture.	11,958	11th Nov. 1847	Samuel Salmen.
Chemical combinations of certain agents for obtaining a new plastic product [ <i>composition as a substitute for leather</i> ].	13,694	12th Jan. 1852	Alcide Marcellin Duthoit.
<b>VI.—Dyeing, finishing, and ornamenting Leather.</b>			
Embroidering or huffing gilded leather on several grounds, for hangings or furniture for houses.	118	17th July 1638	Christopher Hunt.
Making, marbling, veining, spotting, staining, clouding, and damasking leather - - -	461	28th Jan. 1724	{ Robert Redrich. Thomas Jones.
Dyeing and staining leather - - - - -	679	30th March 1753	Radcliff Green.
Composition for and method of staining leather -	758	5th Feb. 1761	William Hayter.
Dyeing white leather on the grain side, in various colours - - - - -	951	25th Jan. 1770	{ Charles Fearn. James Gray.
Dyeing and staining goat-skins, kid, calf-skins, sheep-skins, lamb-skins and hides, with various colours.	998	2nd Nov. 1771	Samuel Samuel.
Machine for glazing, polishing, and graining divers sorts of leather and other articles.	2219	28th Feb. 1798	Andru Cederberg.
Art of preparing, colouring and uniting the skins of sheep and lambs.	2631	26th June 1802	Thomas Richardson.
Machinery for glazing and graining leather - -	2915	8th March 1806	Richard Willcox.
Machines for finishing, glazing, and glossing leather	3115	7th March 1808	{ Thomas Jefferson. Joseph Ellis. Alexander Galloway.
Machine for polishing and graining leather, and extending and flattening the same.	3158	30th July 1808	Luke Hobert.
Ornamenting leather - - - - -	3593	6th Aug. 1812	{ Thomas Hubball. William Robert Wale King.
Dyeing or colouring leather and other articles -	4274	22nd June 1818	John Neilson.
Dyeing or colouring leather and other articles -	4360	19th June 1819	John Neilson.
Dyeing sheep-skins and lamb-skins with the wool on, for carriages, rooms, and for other purposes.	4618	24th July 1823	Richard Gill.
Graining or chequering Russia and other leather -	11,495	15th Dec. 1846	Mark Bingley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TANNING, &amp;C.—continued.</b>			
<b>VII.—Materials for Tanning and Preserving.</b>			
Composition for use in making or manufacturing canvas for sail-cloth, to prevent the same from mildewing.	803	15th Dec. 1763	Stephen Goulder.
Liquor for tanning or preserving single and double thread sail-cloth made of yarn, and mode of preserving the sail-cloth or tanned canvas from mildewing and rotting.	907	28th Nov. 1768	Martin Brumby.
Extract or preparation of or from bark, for use in tanning and in other processes.	1962	2nd Oct. 1793	William Warden.
Manufacturing a liquid from materials now considered useless for that purpose; application of the same liquid to tanning hides and other articles.	4478	6th June 1820	William Kendrick.
Apparatus for extracting a tanning matter from bark and other substances containing such tanning matter [ <i>by means of steam</i> ].	4514	5th Dec. 1820	William Kendrick.
Method of preventing premature decay in timber, metallic substances, and canvas, by the application whereof to such several bodies respectively, the same are rendered impervious to the dry-rot, damp-rot, worms, insects or rust, to which the same are respectively liable, and the same are thereby rendered more durable and less liable to decay [ <i>preparation of coal-tar</i> ].	4722	1st Nov. 1822	John Oxford.
Preparation to be used in solution or otherwise for preventing decay in timber or other substances, arising from dry-rot and other causes.	5340	25th Feb. 1826	Benjamin Newmarch.
Material for tanning hides and skins;—also applicable to other purposes.	6839	20th May 1835	William Patterson.
Composition for protecting wood from fire - - -	7787	30th Aug. 1838	Joseph Davies.
Preparing certain substances for the preservation of wood and other materials used in constructing houses, ships, and other works.	7839	22nd Oct. 1838	William Edward Newton.
Using materials employed in tanning; preparing the same for other useful purposes.	7963	11th Jan. 1839	Francis Brewin.
Obtaining tannin from vegetable substances - - -	7964	11th Feb. 1839	{ Charles Gabriel Baron de Suarce. William Pontifex.
Separating tanning matters by filtration; employing such matters.	8296	4th Dec. 1839	Pierre Narcisse Cronier.
Extracting and concentrating the tannin contained } in vegetable and animal substances - - - }	8419	7th March 1840	{ William Maltby, junior. Richard Cuerton, junior.
Preparing solutions of animal and vegetable matters, applicable to preserving wood and other substances [ <i>India-rubber, gums, resins, and phosphorus, dissolved by means of eupion</i> ].	9807	27th June 1843	Alexander Parkes.
Extraction and preparation of tanning matters from vegetable substances; apparatus employed therein.	13,178	17th July 1850	Jean Jules Varillat.
Composition applicable to coating wood, metals, plaster, and other substances which are required to be preserved from decay;—may also be used as a pigment or paint	13,358	19th Nov. 1850	Alfred Vincent Newton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TANNING, &amp;c.—continued.</b>			
Preparation and mode of applying products to the preservation of substances liable to decomposition and destructive agencies, which mode is also applicable to other products of a similar nature [ <i>composition for preserving wood and other substances</i> ].	13,420	19th Dec. 1850	William Henry Green.
Application of certain fluids for making extracts applicable to the process of tanning; apparatus connected therewith.	13,658	12th June 1851	Frederick Crace Calvert.
Extraction and preparation of tanning matters from vegetable substances; apparatus to be employed therein.  [See also "TAR."]	13,745	11th Sept. 1851	Jean Jules Varillat.
<b>VIII.—Preserving Cloth, Skins, and Fibrous and Organic Substances.</b>			
Rendering more solid and incorruptible in water certain vegetable and animal substances, as also flax, hemp, cotton, silk, hair, wool, &c., also materials made thereof.	2080	15th Jan. 1796	William Desmond.
Making goods of flax, hemp, or cotton, to resist the rotting action of wet.	2913	8th March 1806	Patrick Whytock.
Preserving woollen and linen from mildew - - -	3786	12th March 1814	Alexander Cock.
Rendering articles manufactured of hemp or flax, or hemp and flax mixed, more durable than they now are.	4070	25th Oct. 1816	Lewis Granholm.
Barking or colouring nets, sails, and other articles, by the application of certain materials hitherto unused for that purpose.	4390	10th July 1819	William Good.
Preventing mildew in sail-cloth and other canvas, and in other manufactures made of vegetable fibre - - - - -	4456	11th May 1820	{ James Jacks. Arthur Aiken.
Preventing premature decay in canvas, and thereby rendering the same more durable and less liable to decay [ <i>by using a preparation of coal-tar</i> ].	4722	1st Nov. 1822	John Oxford.
Manufacture of canvas and other fabrics from substances hitherto unused for that purpose [ <i>preventing rot in such fabrics by saturating the threads composing the same, with bituminous and gummy material</i> ].	5846	15th Sept. 1829	George Harris.
Preserving paper, canvas and cloth, also the raw materials, as hemp, flax, or cotton, of which the same may be made.	6309	22nd Sept. 1832	John Howard Kyan.
Preserving animal, woollen, and other fibrous substances from decay.	8487	19th March 1840	Sir William Burnett.
Combining materials to be used for cementing purposes, and for preventing the passage of fluids; forming or constructing articles from such composition of materials [ <i>suitable for preserving linen, paper, leather, wood, metal, and other substances</i> ].	9487	8th Oct. 1842	Charles Edward Deutsche.
Rendering leather, skins, or hides more durable -	10,006	11th Jan. 1844	William Wright.
Preservation of organic and other substances -	11,420	17th Oct. 1846	John Ryan.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TANNING, &amp;c.—continued.</b>			
Treating pasteboard and other substances, rendering them compact and impervious to wet, frost, vermin, and other destructive agents [ <i>also materials for building; by immersing them in oil and other fatty matters</i> ].	11,979	25th Nov. 1847	William Hutchison.
Treating the fleeces of sheep when on the animals [ <i>using chemical solution to render them repellent of water</i> ].	12,802	19th Dec. 1849	James Smith.
Treating the fleeces of sheep when on the animals [ <i>using chemical solutions to render them repellent of water</i> ].	13,391	7th Dec. 1850	Alexander Mein.
Preserving animal and vegetable substances [ <i>sail-cloth and similar fabrics</i> ].	13,732	4th Sept. 1851	Baron Charles Wetterstedt.
Preparation and treatment of fibrous and membranous materials, both in the raw and manufactured state, whereby they are rendered more durable, are contracted or expanded, are cleaned, and are rendered more capable of receiving and retaining colours [ <i>a crushing and cleansing machine; forming or decomposing salts combined with such materials; preserving hides, skins, and wood by tannate and rubinate of magnesia; also preserving animal and vegetable food</i> ].	13,771	10th Oct. 1851	Richard Archibald Brooman.
Preparation and preservation of skins, and animal and vegetable substances.	14,009	8th March 1852	Charles Augustus Preller.
<b>IX.—Preserving Wood.</b>			
Heating, bending, and making pliant, plank of all sorts, to be wrought on any ship, vessel, lighter, boat or floating craft; heating, drying, seasoning, and bending all sorts of timber, wood, plank, or board.	427	14th April 1720	John Cumberland.
Invention for preserving plank and sheathing of ships, which will not only effectually prevent the worms and other shell insects from eating and fouling their bottoms, but enable the ships so sheathed, even in their long voyages, to outsail any other ships of the same burden and form -	497	9th May 1728	{ Benjamin Robinson. Francis Hanksbee.
Method of preparing timber, whereby the same is prevented from shrinking.	3562	5th May 1812	George Smart.
Preserving timber and other substances, in the Arabian method, from corruption or decay.	3774	24th Dec. 1813	James Cavannah Murphy.
Applying a certain species of earth to prevent, destroy, and finally extirpate, the dry or fungus rot, and which will also serve as a substitute for lead in making oil-paints, and for various other purposes [ <i>Roman cement</i> ].	3780	10th Feb. 1814	Joseph Bramah.
Prevention of dry-rot and common decay in timber -	3786	12th March 1814	Alexander Cock.
Increasing the strength of timber - - - -	4592	20th Sept. 1821	James Gladstone.
Preventing premature decay in timber, and rendering it impervious to the dry-rot, damp-rot, worms, and insects [ <i>by means of coal tar</i> ].	4722	1st Nov. 1822	John Oxford.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TANNING, &amp;c.—continued.</b>			
Process by which planks and other scantlings of wood of every description will be prevented from shrinking, and will be altered and materially improved in their durability, closeness of grain, and power of resisting moisture, so as to render the same better adapted for ship-building and other building purposes, for the construction of furniture, and other purposes where close and compact wood is desirable "condensed wood".	5073	11th Jan. 1825	James Falconer Atlee.
Seasoning timber and other wood - - -	5236	11th Aug. 1825	Stephen Langton.
Preserving certain vegetable substances from decay -	6253	31st March 1832	John Howard Kyan.
Preserving certain vegetable substances from decay -	7001	11th Feb. 1836	John Howard Kyan.
Preserving timber - - - -	7160	3rd Aug. 1836	John Webster Flockton.
Rendering wood and cork more durable, less pervious to water, or less inflammable, as may be required for various useful purposes.	7731	11th July 1838	John Bethell.
Preserving wood and other vegetable matters from decay.	7747	26th July 1838	Sir William Burnett.
Method of preparing certain substances for the preservation of wood and other materials used in the construction of houses, ships, and other works;—applicable to other useful purposes.	7839	22nd Oct. 1838	William Edward Newton.
Hardening wood, and rendering it repulsive of vermin, and proof against dry-rot.	8120	22nd June 1839	Joseph Pons.
Impregnating wood or timber with chemical materials	8199	17th Aug. 1839	Matthew Uzielli.
Preserving wood from decay - - -	8350	21st Jan. 1840	Arthur Howe Holdsworth.
Strengthening and preserving ligneous and textile substances.	8442	23rd March 1840	William Newton.
Impregnating and preserving wood and timber -	8780	11th Jan. 1841	Matthew Uzielli.
Process, mode or method of making or manufacturing lime, cement, artificial stone, and such other compositions, more particularly applicable for working under water, and in constructing buildings and other works which are exposed to damp [and for hardening wood and other organic matters].	8914	3rd April 1841	William Edward Newton.
Preserving vegetable matters where metallic and earthy solutions are employed.	9025	9th July 1841	Charles Payne.
Treating wood and other substances required to be exposed to water.	10,062	19th Feb. 1844	Alfred Jeffery.
Drying, seasoning, and hardening wood and other articles - - - -	10,126	28th March 1844	{ Robert Davison. William Symington.
Preserving wood - - - -	10,665	10th May 1845	Frederick Ransome.
Preservation of wood and other materials - -	11,434	3rd Nov. 1846	Baron Charles Wetterstedt.
Preserving and preparing wood and other substances	11,739	10th June 1847	Henry Cox.
Preserving and colouring wood - - -	11,842	19th Aug. 1847	François Augustus Renard.
Preserving animal and vegetable substances from decay [preserving wood].	12,250	21st Aug. 1848	John Bethell.
Preserving certain vegetable and animal substances from destruction by worms, insects, decay and fire.	12,582	24th April 1849	Lewis Vernet.
Preparation and mode of applying products to the preservation of substances liable to decomposition and destructive agencies, which mode is also applicable to other products of a similar nature [preserving wood].	13,420	19th Dec. 1850	William Henry Green.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TANNING, &amp;c.—continued.</b>			
Preserving metals and wood - - - - -	14,062	15th April 1852	Alfred Vincent Newton.
Composition applicable to the coating of wood, metals, and other substances to be preserved from decay.	14,156	8th June 1852	Laurent Machabee.
Preserving wood and other vegetable matters from decay [ <i>extension for seven years of patent No. 7747 from 26th July 1852</i> ].	14,232	20th July 1852	Sir William Burnett.
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<b>X.—Preserving Ropes and Cordage.</b>			
Tarring cordage - - - - -	2421	1st July 1800	Joseph Huddart.
Preserving cordage by application of resinous matter	2513	5th June 1801	William Chapman.
Machinery used for tarring ropes and cables - -	4160	12th Aug. 1817	James Bounsall.
Preparation of pitch or tar, separately or in union, by an admixture of other ingredients with either or both of them [ <i>mixing pitch or tar with caoutchouc for dressing ropes and sail-cloth</i> ].	4768	22nd March 1823	Thomas Hancock.
Patent cordage [ <i>prepared with corrosive sublimate &amp;c. to prevent decay</i> ].	5252	15th Sept. 1825	Cathcart Dempster.
Manufacture of hempen rope or cordage [ <i>prepared with a tanning material to prevent rotting</i> ].	5696	4th Sept. 1828	John Robertson.
Preserving cordage for ships and other purposes -	6309	22nd Sept. 1832	John Howard Kyan.
Rendering ropes and cordage more durable, less pervious to water, or less inflammable, as may be required for various useful purposes.	7731	11th July 1838	John Bethell.
Applying tar or other preservative to rope or other yarns.	8514	22nd May 1840	James Buchanan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TAPS AND VALVES ;—REGULATING THE FLOW OF FLUIDS.</b>			
<b>I.—Taps and Valves.</b>			
Water-cocks, with a plug or valve - - - -	1402	1st Dec. 1783	Joseph Bramah.
Cocks and valves - - - -	1431	20th May 1785	James Phillips.
Cocks or valves - - - -	1501	2nd Nov. 1785	James Tate.
Construction and principle of valve water-cocks -	1512	19th Nov. 1785	John Rothwell.
Construction of cocks and valves - - - -	1542	11th April 1786	Joshua Walker.
Ball-cocks - - - -	1725	20th Jan. 1790	John Dring.
Valve-cock - - - -	1957	15th June 1793	Robert Ferryman.
Manufacturing cocks for drawing off ale, beer, or any other liquid.	2030	12th Jan. 1795	James Timmins.
Making cocks for drawing ale and other fluids from barrels and all kinds of vessels, so as to prevent leakage, by the application of collars of leather or cork to the plug.	2088	16th Feb. 1796	William Rudder.
Construction of valves - - - -	2114	31st May 1796	John Strong.
Stop-cock for barrels and other vessels - - -	2451	15th Nov. 1800	Thomas Grylls.
Making metallic cocks for conveying and stopping fluids.	2635	15th May 1806	Martin Carwood.
Construction of stop-cocks - - - -	3123	29th March 1808	John Dickson.
Cock for drawing off liquors - - - -	3168	24th Sept. 1808	Edward Massey.
Making barrel-cocks and water-cocks - - -	3241	8th June 1809	Thomas Wells.
Lock-cock - - - -	3353	22nd June 1810	{ James Frost, sen. James Frost, jun.
Valves for various purposes - - - -	3479	9th Sept. 1811	William Good.
Construction of cocks for drawing off ale, porter, beer, cider, wine, water, and other liquids and fluids.	3500	30th Oct. 1811	William Rudder.
Cock made of metal and wood, for drawing liquor from casks.	3701	25th May 1813	William Stocker.
Cock made of metal and wood, for drawing liquor from casks.	3775	10th Jan. 1814	William Stocker.
Cocks and vents for general purposes, particularly useful to brewers, distillers, private families, &c.	4063	19th Nov. 1816	William Russell.
Instrument in lieu of cocks, for drawing beer, cyder, and other liquors, from casks and other vessels.	4215	31st Jan. 1818	John Penwarne.
Cocks for drawing off liquids [ <i>made of block-tin, to prevent oxydation, and having a screw plug</i> ].	4729	28th Nov. 1822	John Dixon.
Steam-engines [ <i>valve</i> ] - - - -	4800	5th June 1823	Jacob Perkins.
Machine for preventing the improper escape of gas [ <i>self-acting valve for burners</i> ].	4830	14th Aug. 1823	Henry Constantine Jennings.
Cock or tap for drawing off liquids - - - -	5040	20th Nov. 1824	Isaac Taylor, junior.
Cocks for drawing off liquids [ <i>with a tube of cork round the plug</i> ].	5083	18th Jan. 1825	William Rudder.
Cock, tap, or valve, for drawing off liquors } [ <i>porcelain</i> ] - - - - }	5278	1st Nov. 1825	{ John Ridgway. William Ridgway.
Making metallic cocks for drawing off liquids [ <i>of lead, or an alloy with antimony</i> ] - - - }	5551	11th Oct. 1827	{ Joseph Hall. Thomas Hall.
Construction of cocks for the passage of fluids -	5595	2nd Jan. 1828	William Gossage.
Tap or cock for drawing off liquids - - - -	5760	19th Jan. 1829	James Moore Ross.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TAPS, &amp;c.—continued.</b>			
Self-acting air or gas regulator or stop-cock, for governing the flow of air or gas;—applicable to other purposes.	5880	2nd Nov. 1829	George Danre.
Cock for drawing liquor from casks [a conical plug]	5885	26th Jan. 1830	{ George Stocker. Alexander Stocker.
Cocks for drawing off liquids - - - -	5904	27th Feb. 1830	{ Enoch William Rudder. Robert Martineau.
Cock for fluids - - - - -	5936	4th May 1830	John Walker.
Fountain-cocks for supplying kitchen-ranges or cooking apparatus with water, and for other purposes.	5996	7th Sept. 1830	William Cook.
Cocks for drawing off liquids - - - -	6047	13th Dec. 1830	{ John Dixon. Thomas Vardy.
Cock or tap applicable for fluids, liquids and gases	6109	21st April 1831	William Dixon.
Cock or tap applicable for fluids, liquids and gases; applying the said improvements to other purposes.	6113	18th May 1831	Robert Burton Cooper.
Piston and valve for steam, gas, and other engines -	6204	22nd Dec. 1831	Samuel Hall.
Constructing cocks or taps for drawing off liquids -	6235	1st March 1832	Charles Beard.
Manufacture of cocks for stopping and drawing off gas and water, and for other purposes.	6242	15th March 1832	John Day.
Manufacturing valves for steam-engines or steam-apparatus, or for any fluid or gas, and in any situation where valves or sluices may be used; combination of materials for manufacturing such valves.	6470	14th Sept. 1833	Isaac Dodds.
Valve and apparatus for close-fermenting and cleansing porter, beer, ale, wine, spirits, cider, and all other saccharine and fermentable fluids.	6623	7th June 1834	Edward Keele.
Taps for drawing off liquids - - - - -	6659	12th Aug. 1834	Charles Arter.
Construction of cocks or taps for drawing off fluids	6771	25th Feb. 1835	John Hothersall Hallett.
Apparatus applicable as a cock in drawing off or regulating the flow of fluids.	6851	22nd June 1835	Elias Carter.
Manufacture of steam-engine cocks - - - -	6873	7th Aug. 1835	William Mason.
Apparatus for decomposing common salt; conducting the process [a stone hydraulic-valve between the furnace and condenser].	7267	24th Dec. 1836	William Gossage.
Construction of sluice-cocks for water-works; also applicable to steam, gas, and other purposes.	7442	5th Oct. 1837	Ovid Topham.
Cocks for drawing off liquids - - - - -	7650	24th May 1838	{ Robert Martineau. Brooke Smith.
Apparatus for regulating the supply of water or other liquids, and the quantity delivered into receivers.	7665	14th June 1838	Henry Robert Abraham.
Valves and their combination with machinery [see "RAILWAYS"].	7920	3rd Jan. 1839	Samuel Clegg.
Cocks or apparatus for drawing off liquids - -	8066	13th May 1839	George Stocker.
Valve for machines for raising water and other liquids - - - - -	8103	12th June 1839	{ Nicholas Harvey. William West.
Construction of cocks or taps for drawing off fluids	8261	7th Nov. 1839	George Hanson.
Construction of cocks and valves applicable to gas or fluid meters.	8393	22nd Feb. 1840	John Hanson.
Stuffing-boxes applicable to cocks - - - - -	8494	5th May 1840	William Beetson.
Stuffing-boxes applicable to cocks - - - - -	8590	5th Aug. 1840	William Beetson.
Construction of pistons and valves for retaining or discharging gases and steam - - - - -	8728	28th Nov. 1840	{ George Holworthy Palmer. Charles Perkins.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TAPS, &amp;c.—continued.</b>			
Taps for drawing off and stopping the flow of fluids	8730	2nd Dec. 1840	Henry Bridge Cowell.
Valves for hydraulic machines - - - -	8816	26th Jan. 1841	Richard Jenkyn.
Manufacture of taps and cocks for drawing off fluids	8953	6th May 1841	James Hancock.
Construction of cocks and taps - - - -	9170	9th Dec. 1841	Jonathan Guy Dashwood.
Construction of cocks - - - - -	9364	9th June 1842	Joseph Chatwin.
Plugs, cocks, or taps, for steam, gases, and liquids [portioning steam-power].	9581	29th Dec. 1841	John Bishop.
Construction of street guard-plates for public water-service; constructing the stop-valves or stop-cocks for the same;—applicable to other purposes where the flow of water or other liquid is required to be regulated.	9837	13th July 1843	William Midworth.
Four-port slide-valve controller for reversing steam-engines, and for working steam expansively in the cylinder.	9948	18th Nov. 1843	William Shepherd.
Steam-engines; apparatus connected therewith for driving machinery [slide-valves].	9971	5th Dec. 1843	John Hick.
Steam-valves - - - - -	10,078	24th Feb. 1844	Peter Rothwell Jackson.
Improvements applicable to taps and valves - -	10,176	7th May 1844	John Loach.
Steam-engines [constructing and applying valves] -	10,193	22nd May 1844	James Petrie.
Covering valves used when propelling by atmospheric pressure.	10,270	24th July 1844	William Brockedon.
Construction of taps or cocks - - - - -	10,617	15th April 1845	Moses Poole.
Taps and valves - - - - -	10,650	3rd May 1845	Frederick George Underhay.
Cocks and taps - - - - -	10,837	25th Sept. 1845	Edward Chrimes.
Sluice-cocks - - - - -	10,907	31st Oct. 1845	Henry Waller.
Manufacture of taps or cocks - - - - -	10,930	6th Nov. 1845	Robert Burton Cooper.
Cocks for drawing off liquids and gases - - -	11,189	30th April 1846	{ Thomas Lambert. Charles William Rowley Rickards.
Marine and stationary steam-engines, and apparatus connected therewith [cock or tap].	11,199	7th May 1846	Thomas Melling.
Construction of locomotive-engines, to be used on rail and other ways [valves for steam-engines].	11,740	12th June 1847	William Beckett Johnson.
Valves for steam and other engines - - - -	11,787	3rd July 1847	Edmund Wheeler.
Engines for exhausting fluids [valves for air-pumps and other exhausting apparatus].	12,010	4th Jan. 1848	Edward Humphrys.
Cocks for drawing off liquids and gases [lining with vulcanized india-rubber or gutta-percha].	12,012	5th Jan. 1848	Josiah George Jennings.
Valves for closing the tubes of atmospheric railways	12,014	5th Jan. 1848	William Froude.
Safety-valves for steam-boilers - - - - -	12,026	13th Jan. 1848	Robert Wilson.
Valves or plugs for the passage of water or other fluids - - - - -	12,032	18th Jan. 1848	{ John Frederick Bateman. Alfred Moore.
Means, processes and apparatus for preventing the escape of heat through boilers; apparatus for saving and applying the lost heat, and in some cases directing the same [applying safety-valves to heating apparatus].	12,062	10th Feb. 1848	Felix Douche.
Valves or plugs for the passage of water - - -	12,117	10th April 1848	{ John Eckroyd. John Eccles.
Taps and vent-pegs - - - - -	12,330	18th Nov. 1848	Thomas Masters.
Construction of cocks or valves - - - - -	12,338	23rd Nov. 1848	Christian Schiele.
Manufacture of cocks or valves for drawing off liquids - - - - -	12,339	23rd Nov. 1848	{ Peter Llewellyn. John Hemmons.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TAPS, &amp;c.—continued.</b>			
Valves for atmospheric railways - - -	12,588	26th April 1849	William Faulconbridge.
Valves and taps [ <i>disclaimed</i> ] - - -	12,626	2nd June 1849	Moses Poole.
Pump-cocks - - -	12,673	26th June 1849	Thomas Wood Gray.
Slide-valves of steam engines - - -	12,689	4th July 1849	James Mulbery.
Steam-engine [ <i>slide-valve</i> ] - - -	12,708	18th July 1849	Evan Leigh.
Valves and cocks - - -	12,804	12th Oct. 1849	Henry Watson.
Apparatus and machinery partly applicable for regulating the pressure of fluids for various purposes [ <i>a valve</i> ] - - -	12,836	10th Nov. 1849	{ Charles Edward Amos. Moses Clark.
Cocks or valves or stoppers; use of flexible substances for regulating or stopping the passage of fluids.	12,875	3rd Dec. 1849	George Buchanan.
Machinery for regulating the admission of steam to the cylinders of steam-engines.	12,960	7th Feb. 1850	Charles Atherton.
Manufacture and refining of sugar; treatment and use of matters obtained in such manufacture [ <i>construction of valves used in such and other manufactures</i> ].	12,977	21st Feb 1850	John Scoffern.
Machinery or apparatus for manufacturing aerated waters or other such liquids [ <i>cock or tap adapted to such apparatus</i> ].	13,125	11th June 1850	William Cox.
Ship and other pumps [ <i>valves</i> ] - - -	13,136	19th June 1850	Charles Greenway.
Safety-valves - - -	13,138	19th June 1850	Charles Hanson.
Valves of steam and other engines - - -	13,163	3rd July 1850	Francis Edward Colegrave.
Cocks - - -	13,188	23rd July 1850	William Beatson.
Valves applicable to pumps - - -	13,354	19th Nov. 1850	John Hosking.
Steam-engines [ <i>valves, applicable also where other vapours or gases are used as the motive-power</i> ].	13,410	12th Dec. 1850	William Beckett Johnson.
Safety-valves - - -	13,598	24th April 1851	William Andrews.
Passages and valves for the induction, eduction, and working of fluids.	13,641	27th May 1851	Archibald Slate.
Valves for double-acting steam-engines - -	13,883	27th Dec. 1851	Joseph Stenson.
Taps or cocks for drawing off liquids [ <i>ball or float cocks</i> ].	14,001	8th March 1852	Frederick George Underhay.
Locomotive and other steam-engines [ <i>valve</i> ] -	14,044	25th March 1852	John Smith.
Apparatus applicable to purposes of ventilation [ <i>constructing valves</i> ] - - -	14,071	17th April 1852	{ William Henry Dupré. Clement Le Sueur.
Cocks for drawing off liquids [ <i>taps and ball-cocks</i> ] -	14,091	27th April 1852	{ Alfred Taylor. Henry George Frasi.
Construction of cocks, taps, or valves - -	14,125	17th May 1852	Samuel Hall.
Construction of taps and cocks for fluids and liquids	14,245	29th July 1852	Pierre Armand le Comte de Fontainemoreau.
Construction of steam-engines [ <i>expansion-valves</i> ] -	14,259	12th Aug. 1852	{ Daniel Adamson. Leonard Cooper.
Valves - - -	14,278	23rd Aug. 1852	Josiah George Jennings.
Regulating the flow of liquids [ <i>valves</i> ] - -	14,288	10th Sept. 1852	John Wright Treeby.
Apparatus for aerating liquids; ornamenting such apparatus [ <i>arrangement and construction of stop-cocks for licoirs</i> ].	14,300	23rd Sept. 1852	François Mathieu.
Improvements applicable, or partly so, for measuring and transmitting aeriform bodies and fluids [ <i>arrangement of double-valves for rotary machines</i> ].	14,351	8th Dec. 1852	William Gorman.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TAPS, &amp;c.—continued.</b>			
<b>II.—Regulating the Flow of Fluids.</b>			
Construction of gas regulators or governors -	5089	1st Feb. 1825	Samuel Crosley.
Regulating the flow of gas from portable reservoirs	5164	14th May 1825	Jean François Gravier.
Apparatus for regulating the course and action of fluids and liquors;—applicable to various purposes.	6219	31st Jan. 1832	Collin Smith.
Apparatus for a uniform supply of gas to gas-burners, through pipes.	6810	9th April 1835	Hugh Ford Bacon.
Apparatus for regulating the supply of gas to burners, and stopping off the same.	6861	22nd June 1835	Elias Carter.
Mechanism for regulating the supply of gas from a portable vessel or fixed pipe, communicating with a gasometer.	7447	19th Oct. 1837	Henry Quentin Tenneson.
Apparatus for regulating the flow of gas through pipes to gas-burners.	7536	11th Jan. 1838	Hugh Ford Bacon.
Apparatus for regulating the supply of gas through pipes to gas-burners, for uniformity of supply.	7939	17th Jan. 1839	Hugh Ford Bacon.
Apparatus for regulating the flow of fluids -	8884	22nd March 1841	Achille Elie Joseph Soulas.
Regulating the flow of air and gaseous fluids -	9265	25th Feb. 1842	William Newton.
Apparatus for regulating the escape of steam, and the passage of air in chimneys or furnaces.	9817	6th July 1843	Florimond Delcroix, junior.
Preventing the circulation of gas being impeded by frost.	10,326	26th Sept. 1844	James Malam.
Improvements partly applicable to regulating and controlling fluids - - - - -	11,077	11th Feb. 1846	{ Thomas Clarke. Mark Freeman. John Varley.
Machinery for regulating the flow of fluids - - -	11,199	7th May 1846	Thomas Melling.
Gas-fittings and apparatus for controlling the passage of gas - - - - -	12,504	5th March 1849	{ Nathan Defries. George Brooks Pettit.
Gas-regulators - - - - -	12,814	18th Oct. 1849	{ David Hulett. John Birch Paddon.
Use of flexible substances for regulating or stopping the passage of fluids.	12,875	3rd Dec. 1849	George Buchanan.
Apparatus for regulating, measuring, and registering the flow of gases - - - - -	12,908	21st Dec. 1849	{ Frederick George Spray. George Nevett.
Regulating the circulation of gas - - - - -	13,057	23rd April 1850	{ Antoine Pauwels. Vincent Dubochet.
Measuring the pressure of gas - - - - -	13,332	9th Nov. 1850	Lucien Vidie.
Apparatus to regulate the flow of water or air in or through pipes.	13,354	19th Nov. 1850	John Hosking.
Regulating the flow of the products disengaged in the carbonization of coal, for illuminating purposes.	13,462	27th May 1851	Alfred Vincent Newton.
Regulating the flow of liquids [to cisterns, reservoirs, &c.]	14,288	10th Sept. 1852	John Wright Treeby.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TAR, PITCH, AND RESIN; DISTILLING BITUMINOUS AND OLEAGINOUS SUBSTANCES.</b>			
<b>Making and extracting ;—also obtaining Naphtha, Eupion, Paraffine, and similar Products.</b>			
Making pitch and tar out of pit-coals - - -	214	29th Aug. 1681	{ John Joachin Becker. Henry Searle.
Making pitch or tar which will preserve ships from the ravages of worms, without sheathing or careening.	247	25th Oct. 1685	Charles Corcellis.
Making tar or pitch for the preservation of wood from putrefaction and worms, also to resist fire and the heat of the sun, and for the better preservation of ropes - - - - -	259	19th May 1688	{ Anthony Gerente, alias, de Clarrant. Peter Vandenanker.
Making pitch and tar - - - - -	301	9th Aug. 1692	Gabriel Waine.
Making three sorts of tar or pitch; one that preserves wood from putrefaction and the gnawing of worms; another that resists fire and will not melt by the heat of the sun; and another that preserves ropes a long time either in water or air.	329	9th Dec. 1693	Peter Clough.
Extracting and making pitch, tar, and oil out of a certain stone found in England and Wales - }	330	29th Jan. 1694	{ Martin Eele. Thomas Hancock. William Portlock.
Making pitch and tar from roach or roof stone, by fluxing with fire only.	405	29th June 1716	Talbot Edwards.
Worm-pitch for preserving the timbers and closing the seams of ships and vessels.	559	13th Oct. 1737	James Peyn.
Extracting a spirit or oil from tar, which same process will produce the finest pitch.	619	7th Aug. 1746	Henry Haskins.
Saving the oily particles formed in boiling tar, and the soot formed in burning tar.	674	13th Jan. 1753	John Baker.
Secret art or mystery in extracting and making from a certain mineral several compositions called mineral tar and mineral oil, to be substituted instead of tar or liquid pitch, intended and used for the bottoms and other parts of ships and navigable vessels.	1016	30th April 1772	Christian Wilhem Baron Van Haacke.
Extracting tar out of coal in the operation of making coke for blast-furnaces.	1224	17th May 1779	John Champion.
Method of extracting or making tar, pitch, essential oils, volatile alkali, mineral acids, salts, and cinders, from pit-coal.	1291	30th April 1781	Archibald Earl of Dundonald.
A new mode of procuring a greater quantity of resinous, bituminous, and oily substances from various articles.	2827	9th March 1805	John Baptiste Denize.
Distilling certain animal, vegetable, and mineral substances; manufacturing the products thereof.	4046	27th July 1816	Henry Warburton.
Purifying oil of tar - - - - -	4217	3rd Feb. 1818	Sir Thomas Cochrane, Knight.
Substitute for pitch [ <i>mixing rough tar with burnt sawdust or soot and stone sulphur</i> ].	4417	4th Dec. 1819	Henry Constantine Jennings.
Distilling off products of coal, and carbonizing coal, in the process of making gas for illumination.	4483	11th July 1820	John Grafton.
Machinery applicable to the drying, distillation, and decomposition of mineral, vegetable, and animal substances; examining and regulating the process whilst substances are exposed to the said operations.	4907	28th Feb. 1824	Richard Evans.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TAR, &amp;c.—continued.</b>			
Manufacturing resin - - - - -	6668	23rd Aug. 1834	Webster Flockton.
Obtaining tar, gas, and other substances from peat moss and peat turf or bog.	7296	6th Feb. 1837	Michael Linning.
Extracting tar and bitumen from all matters which contain those substances or either of them.	7641	14th May 1838	Alexandre Happey.
Mode of purifying and preparing turpentine, resin, pitch, tar, or other bituminous matters, to increase their power of giving out light and heat either when distilled or burnt as fuel.	7770	14th Aug. 1838	Charles Wye Williams.
Methods of producing or manufacturing certain inflammable substances, and of applying the heat and light derived from certain inflammable substances to various useful purposes [ <i>manufacturing tar</i> ].	8141	3rd July 1839	Alexander Cruickshanks.
Purifying the mineral oil or spirit commonly called petroleum, or naphtha, or coal-oil, or spirit of coal-tar.	8752	23rd Dec. 1840	David Walther.
Obtaining oils and other products from bituminous matters; purifying or rectifying the oils so obtained [ <i>intermediary fat oil and thick oil, from schist and asphalte</i> ].	9080	4th Sept. 1841	Theophile Anton Willhelme Count of Hompesch.
Improvements applicable to the preparation of asphalte, and for other purposes.	9477	29th Sept. 1842	Edward Bell.
Combining materials to be used for cementing purposes, and for preventing the passage of fluids; forming or constructing articles from such compositions of materials [ <i>obtaining naphtha from the distillation of bitumen</i> ].	9487	8th Oct. 1842	Charles Edward Deutsche.
Distilling turpentine and tar, and rectifying spirits and oils.	10,406	25th Nov. 1844	William Oxley English.
Production and manufacture of naphtha - - -	10,569	18th March 1845	{ Thomas Drew. Edward Stocker
Distillation of bituminous shistus and other bituminous substances; purification, rectification, and preparation of the productions for useful purposes - - - - -	10,726	23rd June 1845	{ Michel Antoine Bertin Burin du Buisson.
Distillation of tar and pitch - - - - -	11,479	8th Dec. 1846	Samuel Clift.
Improvements in gas-tar, by means of which it may be used as a substitute for oil paint; "Patent mineral paint."	11,870	23rd Sept. 1847	George Bell.
Manufacture and purification of spirituous substances and oils applicable to the purposes of artificial light and various useful arts, and the application thereof to such purposes [ <i>distilling coal-tar, obtaining and rectifying oils and spirits, the products of such distillation</i> ].	11,980	11th Nov. 1847	Charles Blachford Mansfield.
Manufacture of tar - - - - -	12,165	26th May 1848	{ Abraham Solomons. Bondy Azulay.
Manufacture of gas for illumination; manufacture of the residual products into articles of commerce [ <i>collecting oil obtained from the distillation of resin mixed with other materials, and obtaining a spirit from such oil by distillation and rectification</i> ].	12,203	6th July 1848	Joseph Clinton Robertson.
Process of and apparatus for treating fatty bodies;—application of the products to useful purposes [ <i>and obtaining a substitute for natural bitumen</i> ].	12,342	25th Nov. 1848	Pierre Armand le Comte de Fontainemoreau.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TAR, &amp;c.—continued.</b>			
Purification of naphtha, pyroligneous acid, eupion, and other products of the destructive distillation of wood, peat, and other vegetable matters, and of acetate of lime and shale; purification of coal-tar and mineral naphtha, also spirit, being the products of fermentation.	12,380	21st Dec. 1848	James Henry Staple Wild-smith.
Treating peat, and obtaining products therefrom [obtaining paraffine].	12,436	23rd Jan. 1849	Rees Reece.
Heating apparatus, and applying hot and warm air to manufacturing and other purposes, where the same are required [apparatus for the destructive distillation of coal, peat, and other similar substances].	12,517	14th March 1849	Alexander Swan.
Manufacture or treating solvents of India-rubber and other gums [mode of treating coal-oil to render it applicable as a solvent]	12,585	26th April 1849	{ George Simpson. Thomas Forster.
Distillation and treatment of tar, and other products from coal; machinery and apparatus for the purpose.	12,827	2nd Nov. 1849	Charles Cowper.
Treating peat and other carbonaceous and ligneous matters, so as to obtain products therefrom [manufacturing eupion, distilling and rectifying carbo-hydrous, resinous, oleose, and other fatty matters].	12,990	7th March 1850	William Benson Stones.
Manufacture of a vegetable fluid to be used in the production of artificial light; applicable also to manufacture of lacker or varnish.	13,048	18th April 1850	Abraham Moses Marble.
Treating certain products resulting from the distillation of coal:—partly applicable to other similar purposes	13,059	23rd April 1850	{ Richard Laming. Frederick John Evans.
Treating coal	13,066	30th April 1850	George Michiels.
Treating resinous and bituminous bodies; manufacture and application of the same, their compounds and subsidiary products, with the apparatus to be employed therein; also their application to new and other purposes	13,081	25th May 1850	{ William Radley. Frederick Meyer.
Treating bituminous mineral substances, and obtaining products therefrom.	13,292	17th Oct. 1850	James Young.
Manufacture of phosphorus; apparatus to be used therein.	13,695	17th July 1851	Arthur Albright.
Distilling and treating organic substances and bituminous matters, and treatment of their products, together with the apparatus used for the purpose.	13,855	10th Dec. 1851	Etienne Alexander Armand.
Manufacture of resin-oil	13,972	14th Feb. 1852	Herman Turck.
Disinfecting essential oils, and treating fatty matters obtained from shale, shistus, or other bituminous substances; retorts employed in distilling such minerals.	14,217	12th July 1852	Thomas Jordan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TEA AND TABLE SERVICE.</b>			
<b>I.—Tea and Coffee Urns and Kettles.</b>			
Tea-fountain constructed to answer the purpose of a teapot and urn.	1076	27th July 1774	John Wadham.
Tea and coffee urn - - - - -	1544	3rd May 1786	Lancelot Palmer.
Tea-kettle or tea-boiler - - - - -	2143	31st Oct. 1796	Edmund Lloyd.
Perforated vessel and percolator frame for preparing portable coffee.	3138	30th May 1808	David Thomas.
Tea and coffee urns - - - - -	3549	14th March 1812	Sarah Guppy.
Tea-urns and teapots - - - - -	4043	27th June 1816	John Hawkins Barlow.
Tea and coffee pots and biggins - - - - -	4173	1st Nov. 1817	Henry Mead Ogle.
Apparatus for separating infusion of tea or coffee from its grounds or dregs [ <i>a pot or vessel with a strainer within</i> ].	5158	30th April 1825	Daniel Dunn.
Making tea-kettle handle-straps - - - - -	5321	19th Jan. 1826	William Whitfield.
Table-urn [ <i>furnishing boiling water from one part, and tea or coffee from another</i> ].	5525	18th July 1827	George Anthony Sharp.
Construction of tea or coffee urns and other articles of that description.	6293	4th Aug. 1832	William Evatt Wright.
Manufacture of tea-kettles and other articles usually made of copper, copper tinned or plated, iron tinned, or any other metal or metals.	6557	15th Feb. 1834	Thomas Griffiths.
Urns to be used for tea and coffee, and for other purposes.	6749	22nd Jan. 1835	John Jervis Tucker.
Tea and coffee urns and tea-kettles - - - - -	6751	27th Jan. 1835	William Evatt Wright.
Apparatus for applying prepared fuel to culinary and domestic purposes [ <i>plate-warmers, tea and coffee urns and kettles, and wine or beer warmers</i> ].	7593	15th March 1838	Thomas Joyce.
Coffee-pot - - - - -	9035	21st July 1841	William Ward Andrews.
Construction of teapots - - - - -	9823	6th July 1843	Henry Clarke Ash.
Cooking and culinary utensils and methods of heating and suspending or fastening articles of domestic use and similar purposes [ <i>construction of teapots, coffee-pots, and urn-kettles</i> ].	11,140	25th March 1846	Charles Smith.
Apparatus for making teapots and other vessels of metal.	11,378	17th Sept. 1846	Richard Ford Sturges.
Construction and arrangement of apparatus for obtaining decoctions and infusions from certain vegetable and animal matters, partly applicable to certain chemical processes [ <i>lining coffee-pots with porcelain, constructing coffee-pots with an interior vessel of porcelain; tea-urns</i> ].	12,642	7th June 1849	Thomas Masters.
Construction of coffee-pots and teapots - - -	12,766	13th Sept. 1849	Apoleon Pierre Preterre.
Manufacture of teapots, vessels, and other articles made of stamped metal.	12,778	20th Sept. 1849	Thomas Griffiths.
<b>II.—Trays and Waiters.</b>			
Machine on which to set a bottle and glasses at table	434	12th Aug. 1721	Isaac de la Chaumette.
Making trays, waiters, and card-pans - - -	1576	14th Dec. 1786	Obadiah Westwood.
Manufacturing from leather, leather cuttings, shavings, or parings, and whit-leather, a leather for making waiters and tea-trays.	1723	20th Jan. 1790	Samuel Hooper.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TEA, &amp;C. SERVICE—continued.</b>			
Compositions for making trays, waiters, and various other articles; manufacturing the same by presses or stamps.	2830	23rd March 1805	Thomas Jones.
Tea-trays and other trays - - - - -	3800	7th April 1814	Isaac Mason.
Tea-boards or tea-trays - - - - -	4043	27th June 1816	John Hawkins Earlow.
Manufacture of tea-trays and other japanned ware; and the board or material used therein and for other purposes.	7049	29th March 1836	William Brindley.
Combining materials to be employed in the manufacture of tea-tray and other like articles [ <i>scrappings of leather</i> ].	10,958	20th Nov. 1845	Eugene François Vidocq.
Ornamenting japanned metal-wares - - -	14,099	29th April 1852	George Goodman, junior.
<b>XII.—Plates, Dishes, Covers, &amp;c.</b>			
Plates and dishes for table service; plates and dishes as substitutes for water plates and dishes.	1584	23rd Jan. 1787	Isaac Whitehouse.
Construction of tureens - - - - -	1713	8th Dec. 1789	John Baynes.
Manufacturing tin plates, or iron plates covered with tin, into covers for dishes and plates.	2934	8th May 1806	William Robert Wale King.
Dish-covers made of iron covered with tin - -	8833	8th Feb. 1841	Thomas Griffiths.
Manufacturing dish-covers and other articles of similar manufacture.	8952	6th May 1841	Philemon Augustine Morley.
Manufacture of metal dish-covers and metal dishes	10,235	24th June 1844	James Shaw.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>covers for bread and cheese trays</i> ].	11,149	25th March 1846	Charles Smith.
Manufacture of mustard-pots and other vessels of glass - - - - -	12,905	19th Dec. 1849	{ Frederick Hale Thomson. Edward Varnish.
<b>IV.—Spoons and Ladles.</b>			
Making solid silver spoons and tongs - - -	1309	29th Dec. 1781	William Playfair.
Manufacturing spoons and other articles - - -	1509	10th Nov. 1785	William Darby.
Construction of soup-ladles, tureens, gravy-spoons, ladles, and skimmers.	1713	8th Dec. 1789	John Baynes.
Working and making spoons and such other articles of silver, gold, or other metals, as are usually stamped by dies of any description; instruments for the purpose.	3361	18th July 1810	George Hall.
Material applicable to the manufacture of table and other spoons.	3528	28th Jan. 1812	Joseph Cartwright.
Making spoons and other articles of silver, iron, or other metal, by the application of certain machinery hitherto unused for the purpose; improvements in such machinery.	4347	4th March 1819	Samuel Haycraft.
Making ladles, spoons, and other articles of iron, and tinned - - - - -	6314	24th Jan. 1832	{ Joseph Maybury. John Maybury. Joseph Maybury, junior.
Making metal spoons and other articles - - -	6425	25th May 1833	Jonathan Hayne.
Manufacturing spoons - - - - -	9053	30th April 1839	Julian Skrine.
Manufacture of iron spoons - - - - -	10,439	18th Dec. 1844	John Wheeley.
Manufacture of spoons; machinery employed therein	11,353	26th Aug. 1846	Alfred Krupp.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TELEGRAPHS ; COMMUNICATING INTELLIGENCE ; SIGNALIZING.</b>			
<b>I.—Signal and other Telegraphs; signalizing by Flags, Lights, and Bells; firing Signals.</b>			
Communicating intelligence to and from different places by signs produced by means of lights and otherwise.	2564	3rd Dec. 1801	James Boaz.
Telegraph or apparatus for conveying intelligence by night or day.	3238	30th May 1809	John Lindsay.
Fixed and moveable telegraphic lighthouse for signals and intelligence, in rain, storm, and darkness, night or day.	3253	3rd Aug. 1809	Frederick Albert Winsor.
Domestic telegraph, or machinery for communicating intelligence from one room of a house to another.	3377	17th Sept. 1810	Joseph Johnson.
Machine for giving publicity by day and night to proclamations, notices, advertisements, and other things to which the same is applicable.	5024	21st Oct. 1824	George Samuel Harris.
System of signals for communicating between ships at sea or other objects distant from each other, by means of flags and pendants in which the colours hitherto used may be dispensed with, also for communicating by night between ships at sea, and other objects distant from each other, by means of light.	5510	21st June 1827	Henry Raper.
Firing signal and other lights - - - -	7230	22nd Nov. 1836	Thomas Robson.
Telegraphic apparatus, and means of communicating intelligence by signals.	7520	22nd Dec. 1837	William Henry James.
Exhibiting signals for communicating intelligence at sea or on shore.	7656	26th March 1838	Charles William Grant.
Machine or apparatus to be used as a moveable observatory or telegraph.	8897	5th Nov. 1840	Alexander Horatio Simpson.
Giving signals - - - - -	8824	1st Feb. 1841	Charles Hood.
Apparatus for conveying signals or telegraphic communication.	8839	8th Feb. 1841	William Wigston.
Application of telegraphic signals, and mode of applying the same.	9385	9th June 1842	John George Hughes.
Producing light by percussion for signals and other purposes.	9987	25th Nov. 1843	William John Hay.
Signalizing or telegraphing on sea or land by burners with coloured glasses and signal-cards; applicable to railways in all the various departments, as well as for preventing accidents when the train is at full speed; also for showing the state of the tide in harbours, and the diurnal for railways, towns, villages, &c.	10,975	4th Dec. 1845	Robert Rettie.
Communicating between places separated by water -	11,175	23rd April 1846	Arthur Philip Perceval.
Apparatus for protecting property by sounding alarms or giving signals.	11,256	22nd June 1846	John Gillett.
Telegraphic communication - - - - -	11,543	23rd Jan. 1847	Frederick William Jowett.
Apparatus for conveying signals or communications between distant places.	11,612	10th March 1847	James Stevens.
Machinery for time-signals - - - - -	11,990	8th Dec. 1847	James Smith Torrop.
Machinery for effecting telegraphic communication between distant clocks and places otherwise than by electro-magnetism.	12,207	11th July 1848	Richard Roberts.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TELEGRAPHS, &amp;C.—continued.</b>			
Telegraphic communication; apparatus connected therewith;—partly applicable to the moving of other machinery	12,236	10th Aug. 1848	{ William Thomas Henley. David George Foster.
Means of transmitting, communicating, or conveying intelligence.	12,817	4th Nov. 1848	George Henry Bachhoffner.
Transmitting or communicating intelligence for the better protection of life and property;—partly applicable to other like purposes	12,697	4th July 1849	{ Robert Weare. William Peter Boggett.
Telegraphic apparatus [not claimed in the specification].	13,326	7th Nov. 1850	Robert Lucas.
Means or appliances used in conveying telegraphic intelligence between different places	13,363	23rd Nov. 1850	{ George Shepherd. Charles Button.
Bell telegraphs	18,508	11th Feb. 1851	Charles Howland.
Communicating intelligence. "Dioramic Advertiser."	13,666	17th June 1851	Prosper Durand.
Hydraulic telegraph; making signals	13,740	4th Sept. 1851	{ Henry Alfred Jowett. John Kirkman.
Signalizing	10,770	13th Oct. 1851	Robert James Maryon.
Working signal-lamps [on board ship, to indicate the direction a vessel is going].	14,160	8th June 1852	William Rettie.
Making telegraphic communications; instruments and apparatus employed therein and connected therewith	14,331	21st Oct. 1852	{ Edward Brailsford Bright. Charles Tilson Bright.
<b>II.—Electric Telegraph; signalizing by Electricity; working Electric Telegraphs.</b>			
Arrangement of machinery for covering or forming a case round wire, cord, gut, thread, or other substance to render the same applicable to various purposes.	6896	24th Sept. 1835	Joshua Proctor Westhead.
Giving signals and sounding alarms at distant places by means of electric currents transmitted through metallic circuits	7390	12th June 1837	{ William Fothergill Cooke. Charles Wheatstone.
Giving signals and sounding alarms at distant places by electric currents transmitted through metallic circuits.	7614	18th April 1838	William Fothergill Cooke.
Apparatus for making telegraphic communications or signals, by means of electric currents;—partly applicable to obtaining, regulating, or measuring electric currents for other purposes.	7719	4th July 1838	Edmund Davy.
Giving signals and sounding alarms at distant places by means of electric currents	8345	21st Jan. 1840	{ Charles Wheatstone. William Fothergill Cooke.
Improvements applicable to apparatus for giving signals and sounding alarms at distant places by means of electric currents.	9465	8th Sept. 1842	William Fothergill Cooke.
Electric printing and signal telegraphs	9745	27th May 1843	Alexander Bain.
Electric telegraphs	10,257	10th July 1844	Henry Highton.
Electric telegraphs and apparatus relating thereto;—partly applicable to other purposes	10,655	6th May 1845	{ Charles Wheatstone. William Fothergill Cooke.
Electric telegraphs;—partly applicable for other purposes.	10,838	25th Sept. 1845	Alexander Bain.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TELEGRAPHS, &amp;c.—continued.</b>			
Printed communications made by electric telegraphs [ <i>electric printing telegraph</i> ].	10,939	13th Nov. 1845	Jacob Brett.
Communicating intelligence from one place to another [ <i>by electro-magnetism</i> ].	11,051	20th Jan. 1846	John Nott.
Electric telegraphs - - - - -	11,070	3rd Feb. 1846	Henry Highton.
Electric telegraphs [ <i>covering wires for telegraphs</i> ] -	11,428	27th Oct. 1846	Henry Mapple.
Transmitting and receiving electro-telegraphic communications; apparatus connected therewith.	11,460	12th Dec. 1846	Alexander Bain.
Construction and working of electric telegraphs, and apparatus connected therewith;—partly applicable to other purposes.	11,481	14th Dec. 1846	Moses Poole.
Electric telegraphs - - - - -	11,524	11th Jan. 1847	Douglas Pitt Gamble.
Electric telegraphs; arrangements and apparatus to be used therein and therewith;—part of which improvements are also applicable to time-keepers and to other useful purposes - - - - -	11,576	11th Feb. 1847	{ Alfred Brett. George Little.
Electric telegraphs; apparatus connected therewith	11,634	23rd March 1847	William Henry Hatcher.
Apparatus for conveying intelligence - - - - -	11,762	22nd June 1847	John Obadiah Newell Rutter.
Communicating intelligence by means of electricity; apparatus relating thereto;—partly applicable to other purposes - - - - -	11,765	23rd June 1847	{ Henry Mapple. William Brown. James Lodge Mapple.
Working signals; communicating signals and intelligence by the agency of voltaic electricity.	11,849	2nd Sept. 1847	William Sykes Ward.
Electro-magnetic telegraphic apparatus - - - - -	11,894	7th Oct. 1847	Pierre Antoine Joseph Dujardin.
Electric telegraphic apparatus - - - - -	11,926	26th Oct. 1847	George Petrie.
Communicating intelligence by electricity; instruments and apparatus employed therein.	11,974	23rd Nov. 1847	William Reid.
Electric telegraphs - - - - -	12,039	25th Jan. 1848	{ Henry Highton. Edward Highton.
Electric printing and other telegraphs - - - - -	12,054	8th Feb. 1848	Jacob Brett.
Manufacture of pipes of earthenware, pottery and glass; certain applications and arrangements thereof [ <i>for insulating telegraph wires, and other purposes</i> ].	12,079	8th March 1848	Francis Whishaw.
Electric telegraphs and apparatus connected therewith - - - - -	12,136	27th April 1848	{ William Henry Barlow. Thomas Forster.
Application of electricity and magnetism for signaling.	12,212	12th July 1848	William Edwards Staite.
Electric telegraphs and apparatus connected therewith.	12,262	4th Sept. 1848	John Lewis Ricardo.
Making communications from place to place by electricity.	12,352	2nd Dec. 1848	Frederick Collier Bakewell.
Working telegraphs by electricity - - - - -	12,567	16th April 1849	Charles Shepherd.
Communicating intelligence by means of electricity -	12,711	18th July 1849	{ William Brown. Henry Mapple. William Williams.
Electric telegraphs - - - - -	12,899	15th Dec. 1849	Isaac Lewis Pulvermacher.
Electric telegraphs; making telegraphic communications.	12,959	7th Feb. 1850	Edward Highton.
Electric and magnetic apparatus for indicating and communicating intelligence - - - - -	12,991	7th March 1850	{ William Brown. William Williams.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TELEGRAPHS, &amp;c.—continued.</b>			
Electric telegraphs - - - - -	13,062	23rd April 1850	Ernst Werner Siemens.
Forming and moulding plastic substances, and apparatus employed therein [ <i>covering or coating wires with gutta-percha</i> ].	13,146	20th June 1850	John Hunt.
Electric telegraphs and apparatus connected therewith - - - - -	13,336	12th Nov. 1850	{ Edwin Clark. Henry Mapple.
Electric telegraphs; application of electric currents for deflecting magnets or producing electro-magnets.	13,352	16th Nov. 1850	Thomas Allan.
Means and apparatus for communicating intelligence by electricity.	13,427	27th Dec. 1850	George Edward Dering.
Communicating intelligence by electricity - -	13,489	3rd Feb. 1851	Alfred Vincent Newton.
Means and electric apparatus for transmitting intelligence.	13,497	7th Feb. 1851	François Marcelin Aristide Dumont.
Electric telegraphs and various apparatus to be used in connection therewith;—partly applicable to other purposes.	13,555	14th March 1851	George Little.
Electric telegraphs - - - - -	13,619	3rd May 1851	Pierre Armand le Comte de Fontainemoreau.
Protecting insulated electro-telegraphic wires; method and machinery for the purpose.	13,660	12th June 1851	John Chatterton.
Construction and manufacture of sewers, drains, waterways, pipes, reservoirs, and receptacles for liquids or solids, from a substance not hitherto used for the purpose [ <i>and for insulating electro-telegraphic wires</i> ].	13,698	22nd July 1851	Thomas Earl of Dundonald.
Means of communication by electricity; apparatus connected therewith.	13,906	22nd Jan. 1852	Edward Tyer.
Electric telegraphs - - - - -	13,938	29th Jan. 1852	Edward Highton.
Electric and electro-magnetic telegraph apparatus; machinery for and method of making and laying down submarine, submerged, and other lines [ <i>insulating wires</i> ] - - - - -	14,021	8th March 1852	{ William Smith. Archibald Smith.
Covering wires for telegraphic purposes [ <i>employing a varnish of bitumen</i> ].	14,057	6th April 1852	Moses Poole.
Electric telegraphs; apparatus connected therewith -	14,146	29th May 1852	Alexander Bain.
Electric telegraphs [ <i>covering telegraphic wires by means of a tubular chain</i> ] - - - - -	14,166	12th June 1852	{ William Reid. Watkins Benjamin Brett.
Electric telegraphs - - - - -	14,332	21st Oct. 1852	William Reid.
Electric telegraphs [ <i>construction of insulators for suspended wires of electric telegraphs</i> ]. [See also "ELECTRICITY."]	14,343	11th Nov. 1852	Charles Liddell.
<b>III.—Railway and other Signals; Steam-Whistles; working Railway Signals.</b>			
Steam-whistles adapted to locomotive engines and boilers, and for other purposes.	8318	16th Dec. 1839	George Wilson.
Communicating apparatus to be applied to railway carriages.	8525	30th May 1840	William Pettitt.
Making signals by a self-acting apparatus, to be used on railways to obviate collisions.	8803	19th Jan. 1841	Charles Berwick Curtis.
Giving signals on railways - - - - -	9175	11th Dec. 1841	John Edwards.
Giving signals on railways - - - - -	9183	16th Dec. 1841	William Prowett.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TELEGRAPHS, &amp;c.—continued.</b>			
Signals, or method of giving signals, which are applicable to the working of railways, and which are also applicable to maritime purposes; other improvements in the working of railways.	10,905	31st Oct. 1845	Thomas Forsyth.
Conveying intelligence from one part of a railway train to another.	10,936	11th Nov. 1845	George Hill Dutton.
Method of communicating between the person or persons having the charge of a railway train, and the controller of its motive-power.	10,989	10th Dec. 1845	George Mordey Mowbray.
Making signals and communications on railways and between railway engines, carriages, and trains.	11,133	11th March 1846	John Banfield.
Railway, steam-boat, and other signals - - -	11,569	8th Feb. 1847	Alexander Doull.
Giving signals on railways - - - - -	11,809	20th July 1847	William Burch.
Communicating motive-power applicable for working signals on railways; also communicating signals by the agency of voltaic electricity.	11,849	2nd Sept. 1847	William Sykes Ward.
Making communications from one part of a railway train to another.	11,915	21st Oct. 1847	Edmund Tattersall.
Machine for causing communication between the guards and engine-drivers of railway carriages while travelling; also between vessels at sea and the shore; and for other purposes [ <i>atmospheric signal by land or water</i> ].	11,915	4th Nov. 1847	George Wells.
Method of communication between persons in charge of railway trains, and between passengers and engine-drivers and other servants in charge of such trains.	12,004	22nd Dec. 1847	Richard Baird.
Making communications between the guards, engineers, and other servants in charge of railway carriages; also between the passengers and such servants;—applicable generally where speedy and certain communications are required.	12,070	16th Feb. 1848	Joseph Barber Haxby.
Mode of communicating intelligence on railways between the guards or passengers and the engine-driver, by means of electricity and magnetism, combined or not with steam; communicating signals by the same agency, describing the cause of alarm; also communicating intelligence between distant places on the line.	12,076	28th Feb. 1848	John Craft Roberts.
Effecting a communication with different parts of a railway train, by signals or otherwise - - }	12,231	7th Aug. 1848	{ Samuel Thornton. James Edward M'Connell.
Means of communicating between the passengers and guard of a railway train, or between the guard and engine-driver, parts of which are applicable to working signals.	12,615	22nd May 1849	Francis Edward Colegrave.
Making communications between the guards and engine-drivers on railways.	13,697	22nd July 1851	Samuel Varley.
Apparatus for signal and other lights for railways -	13,908	22nd Jan. 1852	Walter Marr Brydone.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TESTING APPARATUS.</b>			
<b>Hydrometers, Saccharometers, Gasoscopes.</b>			
Constructing hydrometers with sliding rules, to ascertain the strength of spirituous liquors, malt, worts, and wash for fermentation.	1259	27th June 1780	John Dicaa.
Spirituous-liquor prover, and certain tables and calculations thereto belonging, by means of which the true strength, &c. of all spirituous liquors will be more correctly and positively ascertained than by any other instrument hitherto known.	1632	5th Dec. 1787	John Nicholas Durand.
Instruments for ascertaining the quality of oils, and assisting their burning.	2279	12th Dec. 1798	Joshua Collier.
Construction of hydrometers - - - -	2640	2nd Aug. 1802	William Speer.
Hydrometer for ascertaining the strength of spirits, and determining the specific gravity of fluids.	2784	3rd Sept. 1803	Chester Gould.
Construction of hydrometers for ascertaining the strength of spirituous liquors; adapting a sliding rule to the same.	2737	31st Oct. 1803	Robert Atkins.
Instruments and apparatus for ascertaining the strength of spirituous liquors - - - - }	4238	14th March 1818	{ John Ashton. Thomas Gill.
Hydrometers and saccharometers - - - -	4659	21st March 1822	Robert Brettell Bate.
Machine or gauge for denoting the quality or strength of certain fluids or spirituous liquors, and for measuring or denoting the quantity of fluids or liquors withdrawn from the vessel in which the same are contained; which machine may be so constructed as to effect either of the above objects alone, if required.	5782	26th May 1829	Thomas Arnold.
Hydrometers and saccharometers - - - -	7035	21st March 1836	Robert Brettell Bate.
Apparatus to show the presence of bi-carburetted hydrogen gas in mines, wells, houses, buildings, rooms, or vaults, and consequently to prevent the explosions and accidents liable to be produced by the said gas; "Gasoscope."	9282	7th March 1842	John Warwick.
Apparatus for ascertaining the alcoholic strength of liquids.	10,729	23rd June 1845	John Field, junior.
Instrument for ascertaining the saltiness of water in boilers.	12,707	18th July 1849	Andrew Peddie How.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>THERMOMETERS AND BAROMETERS.</b>			
Making a portable weather-glass or barometer -	342	2nd Aug. 1695	Daniel Quare.
Instrument for showing the effect of the weight of the atmosphere, with the variation caused by heat and cold, also the quantity of that variation [barometers] - - - - -	825	28th March 1765	{ Henry Pyefinch. John Hyacinth De Magalhães.
Constructing barometers - - - - -	2737	31st Oct. 1803	Robert Atkins.
Thermometer or machine for ascertaining the heat of bakers' ovens, and for other purposes.	3206	13th Feb. 1809	Stephen Hooper.
Thermometers - - - - -	4086	21st Nov. 1816	James Kewley.
Sympiesometer, or improved air-barometer - -	4323	23rd Dec. 1818	Alexander Adie.
Apparatus to ascertain and register the temperature of certain fluids in transitu.	5722	4th Dec. 1828	William Brunton.
Apparatus for regulating the temperature in vaporization, distillation, and other processes.	6014	20th Oct. 1830	Andrew Ure.
Ascertaining the temperature of fluids - - -	7780	21st Aug. 1838	Jean Leandre Clement.
Barometers and sympiesometers - - - - -	8462	2nd April 1840	Charles Cummins.
Barometer - - - - -	9280	7th March 1842	James Readman.
Apparatus for ascertaining the temperature of fluids	9418	12th July 1842	Jean Leandre Clement.
Apparatus for modifying temperature in the condensation of vapours, and in the cooling or heating of liquids and fluids.	10,111	19th March 1844	William Saunders.
Constructing barometers and other pneumatic instruments.	10,157	27th April 1844	Pierre Armand le Comte de Fontainemoreau.
Apparatus for ascertaining the temperature in ships' holds.	10,450	31st Dec. 1844	Alexander Bain.
Indicating heat - - - - -	12,110	5th April 1848	{ Thomas John Knowlys. William Fillis.
Barometers and other measuring instruments -	12,220	20th July 1848	{ David Napier. James Murdoch Napier.
Ascertaining and indicating the temperature of fluids.	12,287	12th Oct. 1848	Arthur Dunn.
Instruments for measuring and regulating the temperature of air, steam, and other fluids.	12,889	15th Dec. 1849	Charles Cowper.
Barometers - - - - -	13,422	19th Dec. 1850	Adolphus Oliver Harris.
Manufacture of dials for barometers and other articles requiring the same - - - - -	13,558	17th March 1851	{ Herbert Minton. Augustus John Hoffstaedt.
Thermometers, barometers, gauges, and other instruments for ascertaining and registering the temperature, pressure, density, and specific gravity of aeriform fluids and liquid or solid bodies	14,002	8th March 1852	{ Enrico Angelo Ludovic Negretti. Joseph Warren Zambra



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TOBACCO AND SNUFF.</b>			
<b>I.—Manufacturing and cutting Tobacco.</b>			
Machine for cutting tobacco - - - - -	622	12th May 1747	Samuel Sage.
British herb tobacco - - - - -	842	25th March 1766	Rev. John Jones.
Apparatus and machinery for the manufacture of tobacco, and for other purposes.	2240	5th June 1798	George Pomeroy.
Stoving and drying tobacco - - - - -	2556	10th Nov. 1801	John Stevenson.
Machine for cutting tobacco - - - - -	2716	21st June 1803	Thomas Brown.
Manufacturing shag tobacco - - - - -	3435	24th April 1811	John Stockwell.
Machinery for cutting tobacco - - - - -	5544	17th Aug. 1827	Lemuel Wellman Wright.
Machinery for cutting tobacco;—applicable to other useful purposes.	6642	10th July 1834	Lemuel Wellman Wright.
Preparing tobacco - - - - -	7767	10th Aug. 1838	Matthew Heath.
Manufacture of tobacco - - - - -	11,816	28th July 1847	{ Alfred Ceal. Henry Bear.
Preparation and manufacture of tobacco - - -	11,904	14th Oct. 1847	Francis Lloyd.
Manufacture of tobacco - - - - -	13,443	11th Jan. 1851	John Alexander Archer.
<b>II.—Making Cigars.</b>			
Manufacturing cigars and other similar articles -	11,094	17th Feb. 1846	Juan Nepomuceno Adorno.
Manufacturing cigars and other similar articles -	11,598	24th Feb. 1847	Juan Nepomuceno Adorno.
Manufacturing cigars - - - - -	11,647	1st April 1847	William Phillips Parker.
Mode of manufacturing cigars - - - - -	11,828	29th July 1847	William Phillips Parker.
Manufacturing cigars and other similar articles -	13,203	31st July 1850	Juan Nepomuceno Adorno.
Manufacture of cigars - - - - -	13,240	29th Aug. 1850	George Augustus Huddart.
Manufacture of cigars - - - - -	14,236	20th July 1852	George Augustus Huddart.
<b>III.—Making Snuff.</b>			
Medicinal snuff used in curing hypochondriacism, imposthumations, agues in the head, ejection of polypi, and various other indispositions.	850	6th Dec. 1749	Thomas Smith.
Cordial cephalic snuff - - - - -	1030	18th Jan. 1773	Benjamin Collins.
Apparatus and machinery for the manufacture of snuff and for other purposes.	2240	5th June 1798	George Pomeroy.
Stoving and drying the preparation for snuffs -	2556	10th Nov. 1801	John Stevenson.
Making snuff - - - - -	7767	10th Aug. 1838	Matthew Heath.
<b>IV.—Cigar Cases and Holders; Snuff and Tobacco Boxes.</b>			
Snuff-boxes - - - - -	434	12th Aug. 1721	Isaac de la Chaumette.
Impressing on varnish laid on copper, &c. for snuff-boxes.	737	10th Feb. 1759	Stephen Bedford.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TOBACCO AND SNUFF—continued.</b>			
Manufacturing from leather, leather cuttings, shavings, or parings, and whit-leather, a leather for making snuff and tobacco boxes.	1723	20th Jan. 1790	Samuel Hooper.
Boxes for snuffs, essences, &c. - - - -	2419	1st July 1800	George Harris.
Joining and combining horn and tortoiseshell by heat and pressure, giving it the appearance of tortoiseshell with the strength and elasticity of horn, for manufacturing snuff-boxes and other small boxes.	4111	18th March 1817	John Winter, junior.
Lids for snuff-boxes and other articles, or a substitute for them.	4540	3rd March 1821	Robert Burton Cooper.
Construction of cases for holding cigars - -	10,865	9th Oct. 1845	Thomas Hollingsworth.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>making cigar cases and trays</i> ].	11,149	25th March 1846	Charles Smith.
Tobacco-boxes used by publicans - - - -	12,852	17th Nov. 1849	Samuel Stocker.
Apparatus for smoking cigars - - - -	13,240	29th Aug. 1850	George Augustus Huddart.
Holders for cigars - - - -	13,857	11th Dec. 1851	Thomas Masters.
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<b>TOOLS FOR BUILDING AND OTHER MECHANICAL PURPOSES.</b>			
<b>I.—For Boring and Drilling—[<i>Augers, Braces, Bits and Stocks</i>].</b>			
Deepening-tool, for setting off the depth of clock and watch-wheels.	872	13th March 1767	John Downes.
Segment for sweeping and setting stocks of wheels	3092	19th Dec. 1807	William Juniper.
Manufacturing augers - - - -	3448	16th May 1811	William Gilpin.
Making augers to be used by shipwrights, millwrights, carpenters, and other artificers.	4010	23rd March 1816	John Sorby, junior.
Tools for the purpose of boring for water - -	4838	20th Aug. 1823	John Goode.
Augers and bits for boring; apparatus for making the same.	5030	4th Nov. 1824	William Church.
Augers or tools for boring - - - -	8552	24th June 1840	William Ash.
Carpenters' stocks and braces - - - -	10,526	20th Feb. 1845	John Bottom.
Machinery to be used in the manufacture of tools for boring wood [ <i>augers</i> ].	10,564	17th March 1845	John Cleveland Palmer.
Brace for the use of carpenters and others - -	12,377	16th Dec. 1848	John Cartwright.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TOOLS, &amp;c.—continued.</b>			
Carpenters' braces and other tools for drilling and boring.	12,843	13th Nov. 1849	James Chesterman.
Process and instrument used for boring the earth -	13,478	30th Jan. 1851	{ Charles Gotthelf Kind. Charles Alexis De Wendel.
<b>II.—Edge Tools—[Planes, Chisels, Cleavers].</b>			
Making plane-irons and trowels from rolled steel, and fastening them to handles.	1969	9th Dec. 1793	Wastel Cliffe.
Making and manufacturing plane-irons and other edged tools from a preparation of cast steel and iron, united and incorporated together by fire.	2033	19th Jan. 1795	Arnold Wilde.
Planing-irons and various other edge tools - -	2997	22nd Dec. 1806	William Bell.
Producing plane-irons - - - - -	3526	23rd Jan. 1812	George Babb.
Plane-irons and turning-chisels - - - -	4512	11th Nov. 1820	Thomas Dyson.
Construction of cleavers requiring a metal back -	4914	15th July 1823	Benjamin Gill.
Chisels or instruments for cutting and dressing stone or other substances.	6737	23rd Dec. 1834	John Smith.
Tools used in sawing, planing, tongueing, grooving, and preparing window-sashes and door and other frames.	7569	16th Feb. 1838	John Jackson.
Manufacture of metals for edged tools - - -	9907	26th Jan. 1843	James Boydell, junior.
Planes - - - - -	10,033	31st Jan. 1844	James Silcock.
Heating, hardening, and tempering articles made of steel, or of iron and steel combined [ <i>edge tools</i> ].	11,380	24th Sept. 1846	Alfred Vincent Newton.
Manufacture of chisels and gouges - - -	12,272	21st Sept. 1848	Henry Wilson.
<b>III.—Files.</b>			
Converting iron files into steel - - - -	161	1st Dec. 1671	His Highness Prince Rupert.
[ <i>Authority to take security and administer an oath to the several workmen, artificers, and persons concerned, neither directly nor indirectly to divulge patent No. 161</i> ] - - - - -	162	8th Jan. 1672	{ His Highness Prince Rupert. Anthony Lord Ashley. Sir Thomas Chickley.
Machine for cutting files - - - - -	670	9th April 1752	Timothy Lightoler.
Machinery for manufacturing files - - - -	2641	14th Aug. 1802	William Nicholson.
Manufacturing blanks or moulds for files - -	2629	9th March 1805	William Bell.
Producing files and other articles - - - -	3526	23rd Jan. 1812	George Babb.
Forming steel or iron, or steel joined with iron, into taper forms for the purpose of making files, and for various other purposes.	3650	20th Feb. 1813	Charles Plimley.
Making files - - - - -	6331	7th Feb. 1826	Benjamin Cook.
Machine for cutting files and rasps - - -	6405	3rd April 1833	William Shilton.
Machinery for preparing or shaping steel for the manufacture of files and rasps.	6864	17th July 1835	William Vickers.
Manufacturing files - - - - -	6891	25th Aug. 1835	Charles Appleby.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TOOLS, &amp;c.—continued.</b>			
Machinery for making files - - - - -	7136	25th June 1836	Alexander Stocker.
Machinery for manufacturing files - - - - -	7153	20th July 1836	John Ericsson.
Machinery for manufacturing files and rasps - -	11,419	15th Oct. 1846	George Winslow.
Machinery for cutting files - - - - -	11,535	19th Jan. 1847	Edward Vickers.
Machinery for manufacturing files and rasps - -	11,786	3rd July 1847	George Winslow.
Rolls for rolling flat and half round file and other iron and steel.	12,694	4th July 1849	Henry Brown.
Machinery for cutting files - - - - -	13,193	23rd July 1850	William Edward Newton.
Manufacture of files - - - - -	13,417	19th Dec. 1850	Charles Cowper.
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<b>IV.—Vices.</b>			
Instruments or apparatus called vices - - - -	7030	14th Dec. 1836	{ John Chalklen. Thomas Bonham.
Boxes and pins or screws for vices and presses -	8225	26th Sept. 1839	Samuel Wilkes.
Manufacture of vices - - - - -	8477	16th April 1840	Samuel Wilkes.
Vices - - - - -	8484	23rd April 1840	John White.
Manufacture of vice-boxes; machinery for effecting the same.	12,259	31st Aug. 1848	Peter Wright.
Construction and manufacture of vices - - - -	12,387	21st Dec. 1848	William Wilkinson.
Vices - - - - -	12,725	1st Aug. 1849	David Harcourt.
Instruments and machinery applicable to vices, and instruments and machinery for obtaining power }	12,941	24th Jan. 1850	{ Joseph Long. James Long. Richard Pattenden.
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<b>V.—Spades and Shovels.</b>			
Manufacture of spades and shovels [ <i>by stamping</i> ] -	4836	20th Aug. 1823	Edward Elwell.
Manufacture of coffered spades and shovels - -	8420	7th March 1840	Luke Hebert.
Manufacture of coffered spades and other coffered tools.	8851	18th Feb. 1841	William Orme.
Manufacture of spades, shovels, and such like tools.	9895	5th Oct. 1843	James Griffin.
Manufacture of shovels for mining purposes - -	10,365	29th Aug. 1844	William Brunton, junior.
Manufacture of helves - - - - -	13,623	6th May 1851	William Henry Brown.
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<b>VI.—Machinery for extracting Bolts and Nails;—Mallets, Soldering-iron, and miscellaneous Tools.</b>			
Machinery for extracting corroded nails and bolts from ships' bottoms, masts, decks, and any part thereof.	3578	25th June 1812	William Ariell.
Apparatus for extracting bolts, nails, &c. and for various other purposes.	3860	10th Dec. 1814	Edward Glover.
Making or fabrication of sundry tools, implements, or articles used in various arts and manipulations, or the ordinary occasions of life.	3895	14th March 1815	Robert Dickinson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TOOLS, &amp;c.—continued.</b>			
A soldering-iron - - - - -	9447	18th Aug. 1842	William Raybould.
Improvements applicable to the construction and method of extending and compressing workmen's tools.	11,031	12th Jan. 1846	Charles Chinnock.
Mallets and other tools; apparatus and machinery for manufacturing the same.	13,188	31st July 1850	Matthew Trattles.
Tools used in making spinning and weaving machinery - - - - -	13,208	31st July 1850	{ Peter Fairbairn. John Hetherington.
Manufacture of anvils - - - - -	13,902	20th Jan. 1852	Peter Wright.
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<b>TRUNKS, BOXES, PORTMANTEAUS, AND BAGS.</b>			
Making leather boxes and other articles - - -	708	3rd March 1756	Thomas Clark.
Travelling trunk, box, or case, which may be converted into a writing or other table, and a seat with folding feet.	1471	4th April 1785	Philip Day.
Manufacturing from leather, leather cuttings, shavings, or parings, and whit-leather, a leather for making band, hat, and other boxes, for covering trunks, and other like purposes.	1733	20th Jan. 1790	Samuel Hooper.
Travelling-trunk - - - - -	3600	25th Sept. 1812	Thomas Handford.
Wardrobe trunk for travellers - - - - -	3914	11th May 1815	Samuel Pratt.
Construction of trunks and portmanteaus; application of materials not hitherto used in the construction thereof.	3950	11th Aug. 1815	Richard Dixon.
Various improvements in or on trunks; application of certain machinery, by means of which machinery they will contract or expand at pleasure.	4078	1st Nov. 1816	William Day.
Construction of portmanteaus, bags, boxes, or cases for travellers.	7250	9th Dec. 1836	Samuel Pratt.
Glueing, or cementing certain materials for building and other purposes [ <i>trunks, portmanteaus, and packing-cases</i> ].	9763	10th June 1843	Henry Austin.
Packing-cases, boxes, trunks, portmanteaus, and other articles for containing goods.	9777	15th June 1843	Thomas Johnson Irvine.
Fastenings applicable to portmanteaus, bags, boxes, books, and other things.	9879	6th Sept. 1843	William Thomas.
Combining materials to be employed in the manufacture of boxes, trunks, and other like articles [ <i>scrappings of leather</i> ].	10,958	20th Nov. 1845	Eugène François Vidocq.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>forming and fastening a metal pan or bottom to carpet and other bags, sacks, and nosebags for horses</i> ].	11,149	25th March 1846	Charles Smith.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TRUNKS, &amp;c.—continued.</b>			
Manufacture of boxes and packing-cases, and other articles requiring to be waterproof.	13,678	27th June 1849	John Thomas Forster.
Improvements applicable to the manufacture of boxes, baskets, and other like articles of utility.	13,109	8th June 1850	William Newton.
Construction of portmanteaus and travelling-trunks	13,189	9th July 1850	Henry Pratt.
Boxes and other hollow articles, and preparation of materials for such purposes; also machinery to be employed in such or similar manufactures.	13,550	10th March 1851	Jean Baptiste Alphonse Brunet.
Portmanteaus - - - - -	13,581	2nd April 1851	Auguste Motte.
Manufacture of boxes - - - - -	13,868	19th Dec. 1851	James Frederick Lackenstein.
 <b>TUNNELS, EXCAVATIONS, AND EMBANKMENTS.</b>			
Engines or way-ploughs for making and repairing mounds, and banks of the sea, great rivers, and other waters; also making, sinking, and repairing ponds, drains, rivers, and watercourses.	13	23rd May 1619	John Shotbolt.
Articles denominated "Tatham's clumps," for the purpose of constructing water-pipes, sewers, tunnels, wells, conduits, reservoirs, or other circular walls, shells, or buildings, by various modifications of the said invention, by means of divers methods of shoulderings, securings, and combinations of earth, stone, plaster, cements, composition, kiln-burnt materials, &c., keyed together by means of wedges, joints, clumps, or other fastenings, so that all the pieces may be combined together in forming one strong and secure utensil, apparatus, or contrivance for constructing circular walls, columns, rollers, and for attaining hydraulic communications, or resisting the application of any reasonable force with effect - - - - -	2672	21st Dec. 1802	{ John Scott. James Clarkson. William Tatham. Samuel Mellish.
Construction of tunnels and subterranean passages -	3567	19th May 1812	Edward Shorter.
Method, plan or principle by which tunnels or archways may be constructed or effected under the river Thames or other rivers, for the passage of carriages, cattle, and foot passengers, and for other purposes.	4028	14th May 1816	Richard Francis Hawkins.
Forming tunnels or drifts under ground - -	4204	20th Jan. 1818	Marc Isambard Brunel.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TUNNELS, &amp;c.—continued.</b>			
Machine to cut and excavate earth - - -	5941	8th June 1830	George Vaughan Palmer.
Tunnelling, or method of excavating subterraneous excavations.	6157	5th Sept. 1831	Harrison Gray Dyar.
Machine for excavating [ <i>excavating and self-loading cart</i> ].	6213	24th Jan. 1832	George Vaughan Palmer.
Apparatus to facilitate the excavation of ground and formation of embankments.	6500	2nd Nov. 1833	William Brunton.
Construction and arrangement of railway tunnels to be worked by locomotive-engines.	7244	3rd Dec. 1836	Henry Booth.
Machinery for excavating and embanking earth for the construction of railways and other works.	7595	19th March 1838	Louis Joseph Amant Ramel.
Apparatus or machinery to be employed as centreings or supporters in the construction of tunnels or other mining operations.	7845	3rd Nov. 1838	Joseph Fraser.
Machinery for cutting and removing earth;—applicable to other purposes.	8017	27th March 1839	William Newton.
Machinery for excavating soil [ <i>for the formation of railways, canals, docks, &amp;c.</i> ]	9281	7th March 1842	John Duncan.
Apparatus applicable to making tunnels and borings	9638	20th Feb. 1843	William Newton.
Connecting and laying pipes or vessels under water, to form tunnels for the conveyance of passengers and goods - - - - -	9877	31st Aug. 1843	{ Charles Louis Felix Franchot. Cyprien Marie Tessie du Motay.
Construction of embankments and other similar structures.	9975	5th Dec. 1843	Laurence Holker Potts.
Machinery for cutting or excavating and removing earth.	10,705	3rd June 1845	William Brent Brent.
Formation of embankments for canals, docks, and sea-walls.	10,780	29th July 1845	Sir Samuel Brown.
Obtaining and applying motive-power, partly applicable to the regulating and controlling fluids [ <i>five excavating-machines</i> ] - - - - -	11,077	11th Feb. 1846	{ Thomas Clarke. Mark Freeman. John Varley.
Excavating and dredging; apparatus employed therein.	11,292	14th July 1846	George Knight.
Machinery for excavating - - - - -	11,296	15th July 1846	Thomas Symes Prideaux.
Machinery for dredging or excavating - - - - -	11,343	19th Aug. 1846	Samuel Haven Hamilton.
Obtaining and applying motive-power [ <i>steam excavating machine</i> ] - - - - -	12,514	14th March 1849	{ Thomas Clarke. Thomas Motley.
Constructing tunnels; apparatus to be used for such or similar purposes.	12,832	5th June 1849	Samuel Dunn.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TURNING.</b>			
New method of turning ovals in pewter and other materials - - - - -	821	5th Dec. 1764	{ Joseph Spackman. James Williamson.
Machine or piece of mechanism, which when applied to a steam-engine or any perpendicular motion, causes such motion to become circular without the medium of a water-wheel, and useful for turning, grinding, rolling, stamping, or hammering in all kinds of mechanical operations.	1213	10th March 1779	Matthew Wasbrough.
Machinery for turning, annealing, and finishing iron oval-bellied pots.	1232	10th Aug. 1779	Jonathan Taylor.
Machine for turning iron - - - - -	1263	23rd April 1780	James Pickard.
Box and axletree for lathes - - - - -	2423	8th July 1800	John Lockett.
Manufacture of barrels of all descriptions of fire-arms and artillery [ <i>lathe for turning barrels for fire-arms</i> ] - - - - -	3469	26th July 1811	{ Henry James. John Jones.
Machine for turning and levelling articles of iron preparatory to welding and grinding.	3590	3rd Aug. 1812	Henry Osborn.
Method of making tools for tapering cylinders made of iron, steel, metal or mixture of metals; also for tapering bars of iron, steel, metal or mixture of metals.	3740	15th Oct. 1813	Henry Osborn.
Turning rolls for rolling iron - - - - -	3813	7th June 1814	George Heywood.
Machinery and implements applicable to ornamental turning.	4400	11th Oct. 1819	Jacob Perkins.
Machinery for cutting out irregular forms in wood or any other substance, by tools with continuous or reciprocating circular motion [ <i>cutting out gun-stocks with a lathe</i> ].	4652	2nd March 1822	John William Buckle.
Improvements applicable, by several alterations, to turning-lathes, and to other purposes [ <i>by a steam-wheel</i> ].	5682	11th Aug. 1828	Lewis Roper Fitzmaurice.
Machinery for turning metals and other materials -	6850	11th June 1835	Joseph Whitworth.
Machinery for turning metals and other substances -	7331	28th March 1837	Joseph Haley.
Machinery, tools, or apparatus for turning metals and other materials.	7332	28th March 1837	Joseph Whitworth.
Machinery, tools, or apparatus for turning metals and other materials.	7441	5th Oct. 1837	Joseph Whitworth.
Apparatus usually employed in lathes for turning metals and other substances.	7510	19th Dec. 1837	John White.
Machinery for turning;—in part applicable to other purposes.	7607	4th April 1838	John Clark, junior.
Machinery for turning metals and other substances	7881	22nd Nov. 1838	John George Bodmer.
Machinery for turning metals and other substances	8196	15th Aug. 1839	John Mason.
Rest for cutting out wooden bowls, and a self-acting rest for other curvilinear turning.	8682	5th Nov. 1840	George Dacres Paterson.
Machinery to be used as a universal chuck for turning and boring purposes.	8707	19th Nov. 1840	Alexander Stevens.
Machinery for turning metal and other substances -	8720	25th Nov. 1840	Nathaniel Batho.
Machinery for turning metals and other substances -	10,369	29th Oct. 1844	Thomas Fuller.
Apparatus for preparing to be turned cylinders or rollers for calendering calico or other fabrics.	10,432	12th Dec. 1844	Joseph Lockett.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TURNING—continued.</b>			
Machinery, tools, or apparatus for turning metals } and other materials - - - - - }	12,551	28th March 1849	{ James Fletcher. Thomas Fuller.
Manufacture of elastic mattresses;—partly applicable to other purposes where sudden or continuous pressure is required to be sustained or transmitted [adapting springs to the treddle of a lathe].	12,874	3rd Dec. 1849	Joseph Paradis.
Apparatus for turning or reducing wood or other substances.	13,030	5th April 1850	Joseph Findlay.
Turning and shaping wood and other materials -	13,850	16th Nov. 1850	Thomas Coats.
Machinery for turning - - - - -	13,505	11th Feb. 1851	William Weild.
Manufacture of lathe and other spindles by the application of a material not hitherto used for the purpose.	13,773	16th Oct. 1851	William Onions.
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<b>TYPE, LETTERS, AND DEVICES.</b>			
<b>I.—Type-founding;—making Stereotype Plates.</b>			
Making types for printing music - - - - -	888	24th Dec. 1767	Henry Foug.
Casting cases in metal for holding printing-types, } for printing on silk, leather, paper, and parchment }	999	6th Nov. 1771	{ Isaac Moore. William Pine.
Casting and moulding types for composing and printing with words, sentences, and syllables, instead of single letters.	1266	16th Oct. 1780	Henry Johnson.
Making punches for stamping and punching the matrices of printing-types for letters and devices.	1766	28th July 1790	Robert Barclay.
Printing-types - - - - -	2620	20th May 1802	Philip Rusher.
Machine for casting or founding types, letters, and ornaments used in printing.	2931	29th April 1806	Anthony Francis Berte.
Machine for casting or founding types, letters, spaces, and quadrats used in printing.	2979	23rd Oct. 1806	Elihu White.
Casting printers' types and sorts, and other articles of metal.	3033	15th April 1807	Anthony Francis Berte.
Machine for casting printing-types - - - - -	3194	23rd Jan. 1809	John Peek.
Register of moulds for casting types - - - - -	3439	27th April 1811	William Caslon, junior.
Printing-type - - - - -	3610	31st Oct. 1812	William Caslon, junior.
Making moveable characters for composing names and professions.	3734	25th Aug. 1813	John Naish.
Making printing-types or characters - - - - -	3845	3rd Oct. 1814	Ambroise Firmin Didot.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TYPE, &amp;c.—continued.</b>			
Method of casting and fixing at the same time metallic types on metallic cylinders, blocks, or plates, for the purpose of printing patterns on cloth made of cotton or linen, or both.	3897	14th March 1815	Jonathan Ridgway.
Preparing, making, and finishing metal and composition types, by which various patterns, devices, and compositions can be printed and impressed on cotton, linen, silk, worsted, mohair, woollen and mixed cloths, also on paper, leather, porcelain and earthenware.	4064	30th Sept. 1816	Robert Clayton.
Casting stereotype plates - - - - -	4249	23rd April 1818	Augustus Applegath.
Making stereotype plates - - - - -	4434	25th Jan. 1820	Marc Isambard Brunel.
Apparatus for printing [ <i>casting type</i> ] - - - -	4664	21st March 1822	William Church.
Apparatus for printing, to be used by type, block, or plate printers [ <i>casting type</i> ].	4760	18th Feb. 1823	William Church.
Machinery for casting metal types - - - -	4826	5th Aug. 1823	Louis John Pouchée.
Machinery for casting types - - - - -	4850	9th Oct. 1823	{ John Henfrey. Augustus Applegath.
Casting printing-types by means of a mechanical process.	5658	22nd May 1828	Thomas Aspinwall.
Making printing-types - - - - -	6076	14th Feb. 1831	James Thompson.
Type-founding - - - - -	6747	17th Jan. 1835	William Houstoun.
Machinery for casting printing-types, spaces, and quadrats; means of breaking off and counting the same.	7555	8th March 1838	Henry Bessemer.
Casting type for printing - - - - -	8172	1st Aug. 1839	Louis François Feuillet.
Manufacture of type - - - - -	9010	28th June 1841	Nathaniel Benjamin.
Construction of type for printing - - - -	9308	23rd March 1842	Moses Sperry Beach.
Casting and constructing type for printing - -	9802	26th June 1843	John Duncan.
Production of type for printing; machinery employed for the same.	10,746	1st July 1845	Philippe Poirier de Saint Charles.
Manufacturing types and other raised surfaces for printing.	10,947	17th Nov. 1845	William Newton.
Founding type - - - - -	12,306	2nd Nov. 1848	John Harris.
Casting printing-types, quadrats, spaces, and other raised surfaces.	12,372	16th Dec. 1848	Alfred Vincent Newton.
Types, stereotype-plates, and other figured surfaces for printing from.	12,995	7th March 1850	Richard Archibald Broo- man.
Casting type - - - - -	13,058	23rd April 1850	William Edward Newton.
Cutting types and other irregular figures - -	13,239	29th Aug. 1850	Alfred Vincent Newton.
Manufacture of type - - - - -	14,309	30th Sept. 1852	Henry Gardener Guion Jude.
<b>II.—Letters and Devices—[making and fixing].</b>			
Raised letters for monumental inscriptions - -	999	6th Nov. 1771	{ Isaac Moore. William Pine.
New character for language, music, and numbers; methods of applying the same.	3362	18th July 1810	Ralph Wedgwood.
Making letters in relief, for signs, show-boards, fronts of shops, houses, and other places.	3587	22nd July 1812	Thomas Motley.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>TYPE, &amp;c.—continued.</b>			
Rendering the names of streets and other inscriptions more durable and conspicuous [ <i>by means of letters enamelled on glass</i> ].	5430	13th Dec. 1826	Peter Mackay.
Philosophic alphabet, or arrangement of letters, forms, or figures, by which the articulate sounds of language may be scientifically denoted.	6259	13th April 1832	George Edmonds.
Manufacturing letters, figures, and other devices, having a flat surface, presenting, by the aid of colours, the appearance of projection, and made in metals, wood, or other substances and materials; also domed letters, figures, and other devices, made from the same material, without seam or joint - - - - -	7395	19th June 1837	{ Theophilus John Nash. John Ross.
Making, forming, or producing raised or projecting letters, for external decoration of buildings and other purposes [ <i>from earthenware or potters' clay</i> ].	8142	3rd July 1839	James Yates.
Manufacture of metallic letters, figures, and other devices.	8986	22nd May 1841	Christopher Dumont.
Fixing letters of metal on glass, marble, wood, and other substances.	12,214	18th July 1848	Jean Louis Lamenaude.
Application of glass, and glass surfaces, to nautical, architectural, and other purposes [ <i>making letters and numerals for names of streets, dials of clocks, shop-signs, and other similar purposes</i> ].	12,330	7th Aug. 1848	David Newton.
Manufacture of letters and figures to be applied to shop-fronts and other surfaces.	12,511	14th March 1849	Robert Ross Rowen Moore.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>U.</b>			
<b>UMBRELLAS, PARASOLS, AND WALKING-STICKS.</b>			
<b>I.—Making and constructing.</b>			
Umbrella with joints, flat springs and tops, worm springs and bolts, slip bolts, screws, slip rivet, cross top, and square slips.	1580	6th Oct. 1786	John Beale.
Making umbrellas and parasols - - - -	2668	21st Dec. 1802	{ John Barnett. Joseph Barnett.
Construction of umbrellas and parasols - - -	3171	8th Oct. 1808	Edward Thomason.
Construction of umbrellas and parasols - - -	3189	29th Dec. 1808	{ Malcolm M'Gregor. William M'Farlane.
Construction of umbrellas and parasols - - -	3200	1st March 1809	Leger Didot.
Making umbrellas and parasols - - - -	3228	19th April 1809	Phillis Bown Thomason.
Parasol and umbrella on an improved construction; "The improved solumbra."	3619	4th Dec. 1812	Charles Price.
Umbrellas - - - - -	3668	16th March 1813	George Dodd.
Constructing a walking-staff to contain a pistol, powder, ball, and screw telescope, pen, ink, paper, pencil, knife, and drawing utensils.	3837	17th Aug. 1814	Henry William Vander Klef.
Umbrellas - - - - -	4886	15th Jan. 1824	Joseph Foot.
Construction of umbrellas and parasols - - -	5761	23rd Jan. 1829	John Hopper Caney.
Constructing umbrellas and parasols - - -	6797	25th March 1835	Joseph Barker.
Constructing of umbrellas and parasols - - -	7357	29th April 1837	Joseph Barker.
Umbrellas and parasols - - - - -	7735	13th July 1838	Alexander Cochrane.
Umbrellas and parasols - - - - -	8016	27th March 1839	Elisha Hale.
Umbrellas and parasols - - - - -	8086	3rd June 1839	Josephine Julie Besnier De Bligny.
Manufacture of umbrellas and parasols [ <i>with ribs and stretchers of metal tubes</i> ].	8498	7th May 1840	Henry Holland.
Treating and preparing whalebone, and the fins and similar parts of whales; rendering them fit for commercial and other purposes [ <i>for walking-sticks</i> ].	8885	17th March 1841	Lawrence Kortright.
Manufacturing certain materials as substitutes for whalebone; machinery for effecting the same [ <i>rolled or twisted strips of metal used in walking-sticks</i> ].	9851	24th July 1843	Joseph Daniel Davidge.
Umbrellas and parasols - - - - -	10,035	6th Feb. 1844	William Sangster.
Umbrellas and parasols - - - - -	10,307	12th Sept. 1844	George Bucknall Picken.
Manufacture of umbrellas and parasols - - -	10,415	2nd Dec. 1844	John Jeremiah Rubery.
Manufacture of umbrellas and parasols - - -	10,455	11th Jan. 1845	Henry Lund.
Manufacture of umbrellas and parasols - - -	10,478	16th Jan. 1845	Isaac Abraham Boss.
Construction of umbrellas and parasols - - -	10,895	24th Oct. 1845	William Thomas.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>sockets formed in walking-sticks, whips, and umbrellas, to contain hot liquids or other articles</i> ].	11,149	25th March 1846	Charles Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>UMBRELLAS, &amp;c.—continued.</b>			
Manufacture of umbrellas and parasols - - -	11,929	2nd Nov. 1847	Meyer Meyer.
Umbrellas and parasols - - -	12,058	8th Feb. 1848	William Sangster.
Constructing umbrellas and parasols - - -	12,487	28th Feb. 1849	Joseph Barker.
Manufacture of parasols and umbrellas - - -	12,864	20th June 1849	William Combauld Jacob.
Umbrellas and parasols - - -	13,223	13th Aug. 1850	Samuel John Pittar.
Manufacture of umbrellas and parasols - - -	13,227	22nd Aug. 1850	Henry Holland.
Constructing umbrellas and parasols - - -	13,554	13th March 1851	Thomas Dawson.
Umbrellas and parasols - - -	14,055	6th April 1852	Samuel Fox.
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<b>II.—Making Furniture for Umbrellas and Parasols.</b>			
Drawing tube spring-lock pillar for umbrellas -	1570	9th Nov. 1786	Joseph Gatward.
Manufacturing umbrella and parasol furniture -	3589	2nd Jan. 1802	Abner Cowell Lea.
Composition to be used in manufacturing umbrella and parasol furniture.	3414	14th March 1811	Robert Davis.
Machine for cutting trunnels and spiles - -	3523	23rd Jan. 1812	John Beale.
Substance applicable as covers for umbrellas - -	4000	23rd March 1816	Samuel Jean Pauly.
Manufacturing the furniture of umbrellas and parasols; uniting the same together.	4604	1st Nov. 1821	Samuel Hobday.
Manufacture of furniture for, and mounting umbrellas and parasols.	4785	22nd April 1823	Francis Deakin.
Elastic rod for umbrellas and other like purposes [made of ozier twigs].	5440	21st Dec. 1826	John Gregory Hancock.
Making umbrella and parasol stretchers - -	7053	7th April 1836	John Jeremiah Rubery.
Manufacture of part of the furniture of an umbrella.	7475	14th Nov. 1837	John Jeremiah Rubery.
Manufacture of a certain part of umbrella and parasol furniture.	9223	13th Jan. 1842	John Jeremiah Rubery.
Manufacturing certain materials as substitutes for whalebone; machinery for effecting the same [rolled or twisted strips of metal used in umbrella and parasol frames].	9851	24th July 1843	Joseph Daniel Davidge.
Elastic ribs, sticks, strips, and fillets used in the manufacture of umbrellas, parasols, and various other articles, in substitution of whalebone and steel.	14,348	27th Nov. 1852	Moses Poole.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>UPHOLSTERY.</b>			
<b>I.—Making and filling Beds, Pillows, Mattresses, and Cushions.</b>			
Backscreen for the ease of invalids troubled with heat in their backs, occasioned by continual lying on the same.	16	5th July 1620	John Dickson.
Turning-mattress, for armies and hospitals, and for other uses.	434	12th Aug. 1721	Isaac de la Chaumette.
Bed for invalids, which may be made [arranged] without inconveniencing the patient.	2005	7th Aug. 1794	Henrietta Caroline Bentley
Covering cushions for seats - - - - -	2208	16th Jan. 1798	Anthony George Eckhardt
Animal substance, and method of preparing and manufacturing the same, whereby the said substance becomes applicable as a substitute for horse and other hair, for stuffing cushions, mattresses, carriages, sofas and chairs, and for other purposes where flock, wool, or hair are now applied.	2949	24th July 1806	Charles Random De Berenger.
Making beds, pillows, hammocks, cushions, and various other articles of the kind, in a different manner and of different materials from any hitherto used.	3718	14th July 1813	John Clarke.
Bed-furniture - - - - -	3910	27th April 1815	Jacob Wilson.
Article for making mattresses, seats, and cushions, without seam, and filled with air.	4000	23rd March 1816	Samuel Jean Pauly.
Beds [made of spiral spring-wires, and swinging on gimbles, to prevent sea-sickness].	5418	18th Oct. 1826	Samuel Pratt.
Buoyant bed or mattress [made of cork and horse-hair, for sailors].	5537	13th Aug. 1827	William Dickinson.
Elastic beds, cushions, seats, pads, and other articles of that kind [improvements on patent No. 5418].	5668	25th June 1828	Samuel Pratt.
Construction of beds - - - - -	5700	11th Sept. 1828	Thomas Minikew.
Beds and mattresses - - - - -	6756	31st Jan. 1835	{ Benjamin Cook. Joseph Cook.
Air-bed cushions and other articles made from caoutchouc, or of cloth or other substance coated or lined with caoutchouc.	6849	4th June 1835	Thomas Hancock.
Beds and furniture, to render them more suitable for travelling and for other purposes.	7799	8th Sept. 1838	Joseph Brown.
Beds and mattresses - - - - -	8349	21st Jan. 1840	James Hall.
Manufacture of beds, mattresses, pillows, pads, cushions, and other articles of a similar nature; also materials for packing.	8507	12th May 1840	James Walton.
Manufacture of beds, mattresses, cushions, pillows, pads, and other articles of a like nature; also materials for packing.	8581	30th July 1840	John Louis Bachelard.
Constructing elastic seats or surfaces of furniture -	8861	2nd March 1841	{ John Wilkie. John Charles Schwieso.
Manufacture of mattresses, cushions, paddings, or stuffings.	9012	28th June 1841	Christopher Nickels.
Improvements applicable to beds - - - - -	9758	6th June 1843	{ Richard Farmer. Joseph Pitt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>UPHOLSTERY—continued.</b>			
Application of certain vegetable matters for stuffing mattresses, cushions, &c. [ <i>convolvuli</i> ].	9883	10th Aug. 1843	Richard Archibald Brooman.
Manufacture of mattresses and cushions; machinery for preparing certain materials for the purpose.	10,884	16th Oct. 1845	John Barsham.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of beds, cushions, pads, and linings</i> ] - - - - -	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Manufacture of elastic mattresses, cushions, and paddings;—partly applicable to other purposes where sudden or continuous pressure is required to be sustained or transmitted.	12,874	3rd Dec. 1849	Joseph Paradis.
Manufacture of sacks and cushions, and elastic material for stuffing the latter, in which manufacture caoutchouc forms an essential ingredient; application of parts of these improvements to the manufacture of pads, coverings, wrappers, and other like articles of utility.	13,109	8th June 1850	William Newton.
Mattresses - - - - -	13,390	7th Dec. 1850	Francis Papps.
Beds or couches, and other articles of furniture -	13,742	10th Sept. 1851	John Blair.
<b>II.—Making Window Curtains and Blinds.</b>			
Glazed printed hangings made of cotton, worsted, or woollen yarn, of all sorts of curious figures and landscapes, which for beauty of colours, exactness of figures, strength, and gloss, is hard to be distinguished from the finest silk tapestry hangings brought from foreign parts.	296	22nd April 1692	William Bayly.
Machine window-blind - - - - -	750	14th May 1760	Gowin Knight.
Window-blinds for coaches and other carriages -	891	2nd Jan. 1768	Thomas Laycock.
Venetian window blinds - - - - -	945	11th Dec. 1769	Edward Bevan.
Making window-curtains with springs - - -	1142	24th Dec. 1776	Israel Lewis.
Making festoon window-curtains with springs -	1162	14th July 1777	Israel Lewis.
Making window-blinds - - - - -	3609	31st Oct. 1812	Benjamin Cook.
Window-blinds - - - - -	4603	1st Nov. 1821	Charles Tuely, senior.
Construction and manufacture of window-blinds [ <i>and converting ordinary Venetian into projecting blinds</i> ] - - - - -	4828	11th Aug. 1823	{ James Barron. Jacob Wilson.
Construction of blinds or shades for windows and for other purposes.	5374	26th May 1826	James Barlow Fernandez.
Applying and arranging certain articles, parts or pieces of cabinet-work, upholstery, and other articles commonly applied to hangings; also others not hitherto so applied.	6186	27th Oct. 1831	Sarah Guppy.
Window-blinds and curtains - - - - -	9614	28th Jan. 1843	William Weild.
Manufacture and construction of window-blinds, screens, and other similar articles;—partly applicable to other purposes.	9822	6th July 1843	George John Newbery.
Manufacture of blinds - - - - -	10,335	27th Sept. 1844	John Harcourt Quincey.
Window-blinds - - - - -	10,373	2nd Nov. 1844	William Newman.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>UPHOLSTERY—continued.</b>			
Spring roller-blinds - - - - -	10,456	11th Jan. 1845	John Gollop.
Roller-blinds - - - - -	10,508	4th Feb. 1845	William Snorell.
Fabrics used for and applicable to certain screens, blinds, and other like purposes.	10,568	29th March 1845	Henry Tylor.
Ornamenting window-furniture and articles of upholstery in general [ <i>curtain-fringes, curtain pins or bands, and curtain-poles</i> ].	11,108	25th Feb. 1846	Thomas Pemberton.
Construction of blinds for windows and doors -	11,161	7th April 1846	George Lewis.
Manufacture of curtains, hangings and theatrical decorations - - - - -	11,512	31st Dec. 1846	{ George David Myers. William Cooper. James Wansbrough.
Window-blinds, and springs applicable to the same or other like purposes.	12,375	16th Dec. 1848	Edward Smith.
Manufacture of window-blinds - - - - -	12,401	4th Jan. 1849	William Thomas.
Manufacture of window-blinds - - - - -	13,378	30th Nov. 1850	Henry Potter Burt.
Blinds - - - - -	13,411	12th Dec. 1850	Joseph Bunnett.
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<b>III.—Suspending and winding up Curtains, &amp;c.</b> [ <i>Rollers, Pulleys, and Laths.</i> ]			
Window-lath for curtains; also for bedsteads -	1164	1st Aug. 1777	James Small.
Making curtain-rods - - - - -	1373	24th May 1783	William Playfair.
Hanging window curtains and blinds - - -	2712	14th June 1803	James Thomson.
Apparatus used for rollers for window-blinds, maps, and other similar objects.	3282	5th Dec. 1809	James Barron.
Self-acting curtain or window-blind rack - -	3462	2nd July 1811	Ralph Sutton.
Apparatus to be used for map-rollers, carriage-blinds, and other similar objects.	3501	7th April 1814	Joseph Roberts.
Manufacture of rack-pulleys in brass or other metals [ <i>for roller-blinds</i> ].	4678	9th Dec. 1823	Thomas Horne, junior.
Mechanical invention for suspending and securing } blinds and other apparatus - - - - -	5334	18th Feb. 1826	{ Benjamin Newmarch. Charles Bonnor.
Pulley-machinery and apparatus for securing, fixing, and removing curtains and roller and other blinds [ <i>ratchet and pull to be attached to the rollers of pulley-blinds</i> ].	5547	30th Aug. 1827	Benjamin Merriman Combs.
Making curtain-rings and bell-pulls from horns } and hoofs of animals - - - - -	5753	14th Jan. 1829	{ James Deakin. Thomas Deakin.
Improvements applicable to drawing or winding up window and other roller-blinds or maps;—applicable to other purposes.	7206	13th Oct. 1836	Frederick Benjamin Geithner.
Roller-blind furniture; manufacturing the same;—partly applicable to other purposes.	7443	5th Oct. 1837	John Loach.
Racks and pulleys for window-blinds and other like purposes.	7716	30th June 1838	William Dobbs.
Mechanism for roller-blinds; “Simcox and Company’s patent blind-furniture.”	8321	16th Dec. 1839	William Newman.
Apparatus for suspending pictures and curtains -	8471	15th April 1840	William Potts.
Improvements applicable to raising and lowering window-blinds, maps, curtains, and other articles.	8628	2nd Feb. 1841	William Ward Andrews.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>UPHOLSTERY—continued.</b>			
Apparatus for raising and lowering window-blinds and maps.	9790	15th June 1843	George Bate.
Ornamenting cornices, ends for cornice-poles and other rods, curtain-bands, and other articles.	10,701	3rd June 1845	William Coston Aitken.
Improvements applicable to the extending and compressing of window-blinds.	11,031	12th Jan. 1846	Charles Chinnock.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>forming curtain-rods and rollers for blinds</i> ].	11,149	25th March 1846	Charles Smith.
Suspending blinds - - - - -	11,959	11th Nov. 1847	George James Soward.
Manufacture of stair-rods - - - - -	12,126	15th April 1848	Selah Hiler.
Apparatus used with curtains, blinds, maps, and plans.	12,723	1st Aug. 1849	Thomas Potts.
Curtains and other rods [ <i>fastenings</i> ] - - -	12,898	15th Dec. 1849	Robert Harcourt.
Curtain-rods - - - - -	13,390	7th Dec. 1850	Francis Papps.
 <b>IV.—Cleansing and laying Carpets.</b>			
Means of applying carpets and other coverings to stairs and steps.	9862	16th March 1843	Arthur Chilver Tupper.
Machinery for beating and brushing carpets - -	10,647	1st May 1845	James Darnell.
Bolts, locks, and other fastenings [ <i>stair-rod</i> ] - -	11,869	16th Sept. 1847	William Hancock.
Machinery for cleansing carpets, matting and similar fabrics.	13,549	10th March 1851	Thomas Horn.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>V.</b>			
<b>VENTILATING BUILDINGS, CARRIAGES, SHIPS, AND MINES.—SUPPLYING DIVING-BELLS WITH AIR.</b>			
Engine for conveying air to diving-vessels - - -	279	— Oct. 1691	{ Sir Stephen Evance. Francis Tyssen. John Holland. Edmund Halley.
Engine contrived so as to force air into any depth of water to supply persons in a diving-machine; purifying the air and making the same again serviceable for persons in diving-engines.	318	17th March 1693	John Stapleton.
Extracting foul air out of ships - - - - -	602	16th March 1744	Samuel Sutton.
Machine for expelling foul air from mines, ships, gaols, hospitals, chambers, or other close places.	1681	12th May 1789	William White.
Apparatus for ventilating mines - - - - -	2276	8th Dec. 1798	William Raley.
Ventilating dwelling-houses, theatres, hospitals, and other buildings, also buildings for preserving trees, plants, shrubs, flowers, fruits, roots, and vegetables, thereby reducing the consumption of fuel, simplifying the mode of management, and rendering the production of fruits and flowers more certain.	2549	3rd Nov. 1801	David Stewart.
Ventilator for the purpose of ventilating tents and marquees.	2860	20th June 1805	William Collins.
Ventilators for use in close carriages, sedan-chairs, rooms, or cabins, and for conveyance of sound.	2874	9th Aug. 1805	William Collins.
Giving heat and a constant succession of fresh air to houses in general, warehouses, churches, theatres, hothouses, hospitals, workhouses, and other buildings, also to manufactories.	3358	3rd July 1810	Robert Howden.
Conducting and regulating the temperature in houses and other buildings.	3963	5th Dec. 1815	Jean Frederick Marquis De Chabannes.
Ventilating buildings - - - - -	4147	5th Aug. 1817	George Stratton.
Warming, cooling, and conducting air in houses and other buildings.	4192	19th Dec. 1817	Jean Frederick Marquis De Chabannes.
Method and apparatus for freeing rooms and buildings from excessive heat, and for keeping them constantly cool.	4479	20th June 1820	John Vallance.
Method and apparatus for freeing rooms and buildings from excessive heat, and for keeping them constantly cool.	4564	19th June 1821	John Vallance.
Ventilation of close carriages - - - - -	4605	1st Nov. 1821	John Frederick Archbold.
Ventilating churches, hothouses, and other buildings;—applicable to other purposes.	5690	28th Aug. 1828	George Stratton.
Apparatus for ventilating drying-houses, rooms, buildings, ships, and mines - - - - -	6276	22nd June 1832	{ Edward Garsed. Alfred Robinson.
Apparatus for ventilating churches, houses, conservatories, and other buildings or places.	6544	18th Jan. 1834	William Morgan.
Apparatus for ventilating buildings and other places.	6658	12th Aug. 1834	James Ward.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>VENTILATING, &amp;c.—continued.</b>			
Airing buildings - - - - -	6726	4th Dec. 1834	Franz Anton Bernhardt.
Ventilating subterraneous and other places - -	6875	10th Aug. 1835	John Cooper Douglas.
Regulating the ventilation of buildings [ <i>Baillie's patent ventilation</i> ].	7307	20th Feb. 1837	Benjamin Baillie.
Ventilating pits, shafts, mines, wells, ships' holds, and all other confined places.	7479	16th Nov. 1837	William Fourness.
Ventilating mines, ships, and other places; apparatus for effecting the same.	7480	16th Nov. 1837	James Buckingham.
Improvements applicable to ventilation - - -	7514	19th Dec. 1837	{ James Berington. Nicholas Richards.
Ventilating - - - - -	7675	7th June 1838	{ John Coope Haddan. John Johnson.
Ventilating buildings - - - - -	7698	22nd June 1838	Thomas Joyce.
Applying ventilating apparatus to stoves conducted on Dr. Arnott's principle.	7838	22nd Oct. 1838	William Jeakes.
Improvements in ventilating vessels, which may also be applied to mines and buildings - - }	8006	20th March 1839	{ John Ruthven. Morris West Ruthven.
Construction and application of rotary engines [ <i>for ventilating mines</i> ].	9249	8th Feb. 1842	Benjamin Biram.
Apparatus for ventilating buildings - - -	9259	15th Feb. 1842	George Haden.
Ventilating - - - - -	9270	26th Feb. 1842	Benjamin Gillot.
Keeping the air pure in confined places and enabling persons to work under water.	9413	7th July 1842	William Revell Vigers.
Apparatus applicable for promoting the perfect ventilation of mines.	9414	9th July 1842	John Peter Booth.
Ventilating carriages and cabins of steamboats -	9457	3rd Sept. 1842	Robert Hazard.
Keeping the air in mines and other confined places in a pure and respirable state.	9776	15th June 1843	Prosper Antoine Payerne.
Ventilating houses and other buildings - - -	9910	18th Oct. 1843	William Watson, junior.
Applying gas for ventilating caverns, pits, or mines	10,139	10th April 1844	James Murray.
Improvements applicable to the ventilation of apartments in which gas and other combustible matters are consumed by ignition.	10,146	18th April 1844	Donald Grant.
Ventilating buildings and other places where a change of air is required.	10,174	7th May 1844	James Grant.
Ventilating apartments and buildings - - -	10,183	15th May 1844	William Walker.
Ventilation - - - - -	10,203	25th May 1844	William Augustus Guy.
Regulating the ventilation of buildings - - -	10,402	25th Nov. 1844	Benjamin Baillie.
Apparatus used in ventilating - - - - -	10,501	28th Jan. 1845	John Leslie.
Machinery for ventilation and other similar purposes.	10,827	4th Sept. 1845	Alexander Haig.
Ventilating - - - - -	11,046	20th Jan. 1846	John Braithwaite.
Ventilating mines - - - - -	11,127	11th March 1846	William Price Struve.
Metal or wood gratings for the fronts of houses, for purposes of ventilation - - - - - }	11,230	28th May 1846	{ Richard Marvin. William Henry Moore.
Apparatus and instruments for ventilation - -	11,354	26th Aug. 1846	Thomas Wroughton.
Steam-engine chimneys, also vent and exhaust pipes, and other like smoke and air conductors; machinery connected therewith [ <i>ventilating buildings</i> ].	11,415	15th Oct. 1846	James Kite.
Sewerage and drainage, and apparatus connected therewith [ <i>ventilating buildings</i> ].	11,426	22nd Oct. 1846	James Lysander Hale.
Ventilating - - - - -	11,546	28th Jan. 1847	John Braithwaite.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>VENTILATING, &amp;c.—continued.</b>			
Apparatus for ventilating buildings, carriages, and other places where a change of air is required.	11,626	16th March 1847	Joseph Henry Tuck.
Ventilation of mines - - - - -	11,744	12th June 1847	Joseph Wilcock.
Ventilating ships and other vessels - - -	12,027	17th Jan. 1848	George Gilmore.
Ventilation [ <i>manufacturing glass ventilators</i> ] - -	12,081	8th March 1848	James Lockhead.
Improvements applicable to ventilation - - -	12,121	12th April 1848	James Meacock.
Ventilating apartments, also carriages;—partly applicable to other purposes.	12,129	20th April 1848	John Britten.
Ventilating rooms and apartments - - -	12,391	28th Dec. 1848	William Dingle Chowne.
Ventilating, or ventilators for ships, vehicles, houses, or other buildings.	12,414	11th Jan. 1849	Obed Blake.
Ventilating buildings - - - - -	12,504	5th March 1849	{ Nathan Defries. George Brooks Pettit.
Railway-carriages [ <i>ventilators</i> ] - - - - -	12,528	19th March 1849	George Knox.
Ventilation of mines - - - - -	12,580	4th April 1849	Robert Gordon.
Ventilating ships and other vessels - - -	12,730	1st Aug. 1849	James Murdoch.
Ventilating rooms - - - - -	12,935	19th Jan. 1850	William Beadon.
Ventilating - - - - -	13,003	11th March 1850	William Crane Wilkins.
Ventilation - - - - -	13,015	23rd March 1850	Horatio Carter.
Ventilator - - - - -	13,017	23rd March 1850	Alfred Wilson.
Ventilating buildings - - - - -	13,075	22nd May 1850	William Edward Newton.
Apparatus for the ventilation of ships, rooms, and buildings.	13,293	24th Oct. 1850	Louis Pascal.
Ventilating buildings and structures - - -	13,365	25th Nov. 1850	{ John Hamilton. John Weems.
Application of plain or ornamental glass, alone or in combination, to new purposes of construction or manufacture [ <i>ventilators</i> ].	13,458	16th Jan. 1851	Robert Cogan.
Apparatus for ventilating - - - - -	13,599	24th April 1851	{ William Smith. Thomas Phillips.
Instruments and apparatus for admission and exclusion of light and air into and from buildings and carriages.	13,624	7th May 1851	Thomas Robert Mellish.
Apparatus for ventilating - - - - -	13,785	23rd Oct. 1851	Donald Henderson.
Apparatus for excluding dust and other matters from railway-carriages, and for ventilating them.	13,863	19th Dec. 1851	Moses Poole.
Ventilating apartments or buildings; apparatus connected therewith.	13,929	27th Jan. 1852	Alexander Mills Dix.
Apparatus applicable to purposes of ventilation -	14,071	17th April 1852	{ William Henry Dupré. Clement Le Sueur.
Improvements in and applicable to boats, ships, and other vessels [ <i>ventilating</i> ].	14,130	22nd May 1852	Richard Roberts.
Machinery for propelling vessels; apparatus to be used in connection therewith [ <i>ventilating the engine-rooms</i> ].	14,150	1st June 1852	Alfred Vincent Newton.
Apparatus for ventilating apartments - - -	14,160	8th June 1852	William Rettie.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>W.</b>			
<b>WATER AND OTHER FLUIDS ; WATER SUPPLY AND DRAINAGE ; HYDRAULIC MOTIVE-POWER.</b>			
<b>I.—Raising and Pumping—[Pumps, Fountains, and other Apparatus].</b>			
Making locks, sluices, bridges, cuts, cranes, mills, and other inventions necessary and convenient for raising water.	3	1st July 1617	John Cason.
Engine for raising water - - - - -	6	17th Jan. 1618	{ David Ramsey. Thomas Wildgosse.
Engine for raising water - - - - -	8	9th April 1618	Robert Crumpe.
Engine for raising water - - - - -	9	16th July 1618	John Gilbert.
Engines for raising water - - - - -	14	2nd June 1619	John Cason.
Engine for raising water - - - - -	21	8th Aug. 1622	{ David Ramsey. John Jack.
Barrel-engine for raising water out of mines, graffs, } coal-pits, or any other place - - - - }	49	21st Jan. 1630	{ David Ramsey. Thomas Parker. Edward Bisse. Richard Jarrett.
Raising water from low pits by fire ; raising water -	50	21st Jan. 1630	David Ramsey.
Making ten mills for raising water - - - - -	66	7th Jan. 1634	Christian Derickson.
Engines for raising water - - - - -	76	18th Dec. 1634	Richard Farrar.
Engine for raising water - - - - -	84	14th July 1635	{ Matthew Van Dyck. SirLeventhpryeFranncke.
Ways, arts, engines, and inventions for raising water.	105	17th May 1637	Robert Chiver.
Engine for raising water - - - - -	110	6th Nov. 1637	John Evans.
Ways and inventions, by an improved method, for raising water by means of hatches, bays, engines, wheels, pumps, and other instruments.	125	12th March 1640	Robert Chiver.
Raising water to great heights - - - - -	127	24th June 1642	{ William Wheeler. John Crupley.
Raising water with springs - - - - -	139	— Aug. 1662	{ Thomas Togood. James Hayes.
Windmill for raising water to great heights, and for other purposes.	174	27th Feb. 1674	John Johnson.
Engine for raising great quantities of water - - -	176	14th March 1674	Sir Samuel Moreland.
Engine with pipes and bags for raising water, and in which all friction is removed.	179	20th April 1675	Thomas Togood.
Engine for pumping water - - - - -	188	18th Dec. 1675	James Ward.
Engine with leather pipes for raising water for } drenching fires, and divers other uses - - }	189	21st June 1676	{ Goodwin Wharton. Bernard Strode.
Pipes, engines, and vessels (by way of hydragogy) } for raising water for supplying, even in the } drought of summer, all sorts of mills, whether } undershot or overshot ; also for raising the } Thames water in larger quantity than is now } raised by the water-mill houses, without the } great charge and labour of men and horses - }	208	23rd May 1679	{ George Burton. Silvester Plett. John Drigton.
Engine for raising water out of wells, pits, and mines.	219	17th June 1682	Robert Aldersey.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Pump or engine - - - - -	224	23rd March 1683	Peter Whalley.
Engine for drawing up water, both at the thrusting down and pulling up of the same rod or pump-staff, with valves opening from both sides, and fast in the middle.	252	19th Jan. 1687	Sir Robert Gordon, Knt.
Engine for raising water - - - - -	271	27th Aug. 1691	John Tyzacke.
Machine for raising water - - - - -	281	17th Oct. 1691	Thomas Holland.
Engine for raising water - - - - -	307	— — 1692	Thomas Hutton.
Engine for raising and discharging water from any depth to any height.	312	31st Jan. 1693	Marmaduke Hodgeson.
Engine for raising water - - - - -	324	19th Sept. 1693	Cornelius Losvelt.
Instruments of wood, iron, steel, and other materials, for raising water for the purpose of performing mill-work and other work.	327	24th Oct. 1693	Captain John Poyntz.
Mill for raising water from the Thames or other river, without the use of horses or other beasts.	338	18th Dec. 1694	Nicholas Barbon.
Engine for raising water out of mines and coal-pits;—applicable to the working of mills, and to other uses.	348	24th Jan. 1696	Evan Jones.
Raising water by means of fire - - - - -	356	25th July 1698	Thomas Savery.
Making an engine for raising water in a new and surprising manner, of great service in extinguishing fire - - - - -	392	27th June 1712	{ Nicholas Lewis Mandell. John Grey.
Engine for raising a continual flow of water, by means of locks and chain-works, with two barrels only.	410	8th Nov. 1716	Thomas Holland.
Raising water by the rotation or circular motion of wheels, without lever or crank.	437	26th Sept. 1721	John Orlebar.
Machine to raise water any height out of mines, rivers, pits, pools, or concavities.	457	22nd Sept. 1723	Matthew Palmer.
Machine called a syphon or an attracting engine, } for raising water to extinguish fires - - - - }	466	15th April 1724	{ William Mason. Thomas Chamflower.
Engine and alope or declining wheel for raising water, and for other useful purposes.	467	20th May 1724	Francis Scobell.
Floating water-engine to raise or force water - -	468	20th May 1724	Richard Dunning.
Engine and pump with a leverage and a horizontal fly, for raising water without the help of fire.	469	20th May 1724	Valentine Flower.
Engine for raising water - - - - -	476	5th April 1725	{ Thomas Nuttall. Joseph Shyrin.
Three methods for raising water - - - - -	479	5th June 1725	Richard Newsham.
Engine for raising water - - - - -	481	10th Dec. 1725	William Deane.
Pumping water without the least friction, and without the suckers touching the sides of the pump, thus reducing the power now requisite in raising water, all which is effected by means of a power derived from a screw contrived suddenly to fly up and down, whereby several pumps may be worked at the same time.	485	21st July 1726	Jacob Rowe.
Engine for raising water - - - - -	486	21st July 1726	Jacob Rowe.
Engine partly applicable for raising water and other purposes.	505	21st Nov. 1728	John Payne.
Raising water by means of fire - - - - -	513	7th Aug. 1729	John Allen.
Machine worked by the united power of weight and draught, for raising water.	539	21st March 1733	Walter Churchman.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued</b>			
Engine partly applicable for raising water - - -	547	12th Sept. 1734	Anthony Parsons.
Windmill for raising water - - - - -	561	24th June 1738	John Kay.
Engine for raising water - - - - -	573	13th Nov. 1740	John Eugene.
Hydraulic mechanism or water-machine for raising water out of wells and carrying the same to any height required.	576	29th May 1741	Joseph Taylor.
Pump with a perpendicular stroke for raising water.	579	9th Sept. 1741	James Creed.
Engine for raising water - - - - -	585	30th July 1742	John Tuite.
Machine with pumps not requiring either box or sucker, for drawing up water from great depths, and for other purposes.	620	21st March 1747	Issac Rowe.
Machine for raising water - - - - -	624	3rd Nov. 1747	Thomas Harris.
Machine turned by wind, for raising water from quarries, pits, or other great depths.	643	9th May 1749	Richard Langworthy.
Engine for raising water, and for other purposes -	671	25th June 1752	{ John Tuite. John Donaldson. Charles Spivey.
Raising water by fire - - - - -	703	25th Aug. 1755	George John.
Raising water - - - - -	741	14th July 1759	Henry Holloway.
Pump of a new construction, which with less force yields a much greater quantity of water than any pump now in use.	755	27th Nov. 1760	Francis Xavier de Arles de Liniere.
Pump - - - - -	756	27th Nov. 1760	Francis Xavier de Arles de Liniere.
Engine for raising water, and for other purposes -	775	21st May 1762	John Walkinshaw.
Engine for raising water - - - - -	797	27th Sept. 1763	Thomas Erskine.
Hydraulic engine for raising water - - -	837	13th Jan. 1766	Charles Douglas Bowden.
Hydraulic engine in the nature of a pump, for raising water.	852	5th July 1766	Benjamin Martin.
Pump for raising water - - - - -	853	12th July 1766	Charles Nicholas Michel Babu.
Machine to be worked by the power of such common fire-engines as are used in raising water out of mines.	859	6th Sept. 1766	John Stewart.
Pump worked by a roll or sheave placed in an aperture in the spear.	924	5th May 1769	Samuel Ambrose.
Machine for raising weight or water in a more simple and easy manner than anything heretofore discovered, and not liable to misfortunes or repairs.	934	4th Aug. 1769	James Taylor.
Machine which will enable one man to pump as much water as has been hitherto done by thirty.	994	18th July 1771	James Story.
Water-engine for raising water - - - - -	1023	27th Aug. 1772	George Anthony Eckhardt.
Hydrostatic pump or engine to act as a common pump, and for extinguishing fire, watering roads, or as a head pump on board of ships.	1072	17th June 1774	John Blanche.
Pump to be worked by fire for raising water, draining mines, pits, or marshes, watering meadows, and filling canals, also applicable as a ship's pump.	1087	17th Nov. 1774	Francis Pinto.
Machine for raising water or other liquid by rarefied air or steam.	1143	4th Jan. 1777	John Jones.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Engine or machine for raising or lifting water, and which greatly varies from any engine or machine hitherto invented for that purpose.	1149	14th March 1777	Stephen Hooper.
Machine or engine for raising water and other liquids by means of fire and steam, and for other purposes.	1298	13th July 1781	Jonathan Hornblower.
Application of a principle in hydraulics to a machine for raising water out of mines, pits, and wells, and for other purposes.	1313	2nd Jan. 1782	John Richmond.
Steam-engine for raising water - - - - -	1321	12th March 1782	James Watt.
Pump for raising water - - - - -	1418	29th Jan. 1784	Mark Noble.
Machine for raising water - - - - -	1453	6th Nov. 1784	Mark Noble.
Machinery for raising water - - - - -	1460	15th Jan. 1785	Christopher Gullet.
Hydrostatical machine and boiler for raising water -	1478	9th May 1785	Joseph Bramah.
Rotatory reciprocal fire-engines for raising water -	1493	3rd Aug. 1785	Joseph Hateley.
Pump on a new construction - - - - -	1508	7th Nov. 1785	John Skeys.
Raising water - - - - -	1525	28th Jan. 1786	Robert Cameron.
Machine for raising water - - - - -	1588	1st Feb. 1787	Benjamin Heame.
Machine for raising water and other fluids, for the purpose of driving mills and other machines, and watering lands.	1620	28th Aug. 1787	Thomas Michell.
Pumps and pumping - - - - -	1631	30th Nov. 1787	Thomas Barber Bryant.
Horse-pump, calculated to raise from ten to one hundred hogsheads per minute, on the principle of a fulcrum balance, worked by a castor-wheel, performing a double attraction in the same revolution.	1648	5th May 1788	John Tencate.
Machine for drawing water without the aid of horses, fire, wind, or water.	1649	5th May 1788	John Beaumont.
Construction of pumps for raising-water with less power than those now in use - - - - -	1704	19th Sept. 1789	{ Walter Taylor. William Collins.
Machine for raising water - - - - -	1788	14th Jan. 1791	Joseph Brooks.
Machine for raising or dispersing water, or for other purposes, possessing a self-assisting power, effected by the pressure of the column of water or resistance in any direction upon the forcing power in favour of the working power, in the proportion of about 7 to 13 and upwards, according to the different modifications of the machine.	1817	17th July 1791	Francis Noble Knipe.
Machine for pumping water, and for other useful purposes.	1836	26th Nov. 1791	Richard Bate.
Machine for raising water and other fluids - -	1903	24th July 1792	James Rumsey.
Steam-engine for raising water - - - - -	1910	18th Oct. 1792	William Williamson.
Water-engine for raising water - - - - -	1998	15th July 1794	Thomas Shurmur.
Quadrant pump - - - - -	2085	4th Feb. 1796	Joseph Creswell.
Pump for raising water, particularly on board ship -	2097	8th March 1796	Robertson Buchanan.
Hand-pump for raising water out of ships and other places.	2099	17th March 1796	William Woods.
Bucket and clack for raising and lifting or drawing water or other liquids.	2101	17th March 1796	Richard Scantlebury.
Hydraulic pump or machine for raising water by apparatus, as particularly described in a drawing thereof.	2180	9th May 1797	Thomas Todd.
Apparatus for raising water and other fluids - -	2207	30th Dec. 1797	Matthew Boulton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Construction of machines for raising water - - -	2217	28th Feb. 1798	Walter Taylor.
Pump or pump-work - - - - -	2227	5th April 1798	William Deverell.
Machine or engine for raising water by steam and otherwise; also for other purposes.	2248	8th June 1798	Jonathan Hornblower.
Constructing pumps - - - - -	2249	14th July 1798	John Dickson.
Machine for raising water from wells - - -	2256	7th Aug. 1798	John Ashley.
Pumps and engines for raising water - - -	2260	23rd Aug. 1798	George Dodgson.
Centrifugal barrel-engine of central force, for raising water from great depths.	2301	8th March 1799	Michael Logan.
Apparatus for moving the piston-rods of pumps or other engines for raising water.	2357	9th Nov. 1799	William Lander.
Hydrostatic engine or machine for the purpose of drawing beer or any other liquors out of a cellar or vault, or for raising water out of mines, ships, wells, or for any other purpose where fluids are required to be raised.	2369	1st Feb. 1800	Thomas Parkinson.
New-invented pump - - - - -	2443	18th Oct. 1800	William Plenty.
Improved pump - - - - -	2520	23rd June 1801	Thomas Witherby.
Machine for raising water and other fluids - -	2638	2nd Aug. 1802	George Elliott.
Steam wheel or engine for raising water by means of steam, and for various other purposes.	2632	26th March 1805	Jonathan Hornblower.
Method of raising water by means of steam - -	2864	2nd July 1805	James Boaz.
Machine for raising water - - - - -	2902	23rd Jan. 1806	Joseph Fletcher.
Chain-pumps;—mode of working the same; wells for receiving such pumps - - - - -	2921	21st March 1806	{ Richard Ottley. James Jeans.
Method of applying steam for the forcing and raising of water in a more simplified manner than has hitherto been practised.	2937	6th June 1806	Ralph Dodd.
Chain and common pumps, whereby the latter will act as a fire-engine for sea and land purposes - }	2940	6th June 1806	{ Lawrence Gwynne. Peter Noble.
Hand-pump and chain-pump - - - - -	3037	25th April 1807	Mark Noble.
Machine which may be used as a pump - - -	3040	9th May 1807	James Woods.
Pump - - - - -	3060	13th July 1807	John Norton.
Applying power for raising water from a lower to a higher level.	3066	30th July 1807	Enoch Wood.
Making pumps - - - - -	3127	30th April 1808	William Bell.
Machine for raising water - - - - -	3230	25th April 1809	John Barton.
Rotative engine for raising water - - - -	3256	9th Aug. 1809	Edward Lane.
Rotative pump - - - - -	3281	23rd Nov. 1809	Thomas Herbert.
Chain-pumps and hand-pumps - - - - -	3289	14th Dec. 1809	Mark Noble.
Construction of pumps - - - - -	3300	12th Feb. 1810	William Muller.
Machine for raising water from a lower to a higher level.	3530	28th Jan. 1812	Phillip Chell.
Machine for raising water from mines, and for other purposes.	3686	1st May 1813	Samuel Evans.
Means which may be applied to the raising of water	3741	18th Oct. 1813	Robertson Buchanan.
Machine for raising hot water from a lower to an upper level, for baths, manufactories, and other useful purposes.	3742	1st Nov. 1813	William Summers, junior.
Machine for raising water for impelling machinery, and for other purposes.	3832	4th Aug. 1814	Tobias Michell.
Improvements for raising water - - - - -	3847	3rd Oct. 1814	William Sampson.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Apparatus or instrument called "Criopyrite," for obtaining and applying power to the raising of water.	3874	16th Jan. 1815	James Collier.
Pumping water or other fluids - - - - -	3917	26th May 1815	Jonathan Ridgway.
Engine for raising water, cold and hot liquor of every description - - - - -	3961	25th Nov. 1815	{ Allen Taylor. Daniel Gallafent, senior. Daniel Gallafent, junior.
Machinery for raising water - - - - -	3995	14th March 1816	{ Pierre François Mont- golfier. Louis Henry Daniel Dayme.
Simplifying the construction of extinguishing engines, and forcing pumps.	4034	27th May 1816	George Dodgson.
Improvements on pumps; which improvements are applicable to various descriptions of machinery -	4235	14th March 1818	{ George Wyke. William Sampson.
Chain pump - - - - -	4251	2nd May 1818	George Tyer.
Raising water for giving motion to machinery, and for other purposes.	4328	7th Jan. 1819	John Pontifex.
Pumps or other engines in which are used pistons working in barrels or cylinders.	4355	3rd April 1819	Paul Slade Knight.
Propelling and construction of engines for propelling and other purposes [ <i>engine for raising water</i> ].	4462	15th May 1820	John Barton.
Fixed and portable pumps for raising water from wells and other situations.	4470	3rd June 1820	Jacob Perkins.
Improvements applicable to water pumps and other machinery.	4490	20th July 1820	Job Rider.
Pumps for raising and conveying water and other liquids.	4498	16th Oct. 1820	Richard Witty.
Machinery for raising water; "Hydragogue" -	4560	9th May 1821	{ John Mayor. Robert Cook.
Machinery worked by water for moving mills and other machinery, and for forcing or pumping water.	4650	22nd Feb. 1822	Elisha Peck.
Machinery, tools, or apparatus for boring the earth for the purpose of obtaining and raising water.	4638	20th Aug. 1823	John Goode.
Engine for effecting a vacuum, and thus producing powers by which water may be raised and machinery set in motion.	4874	4th Dec. 1823	Samuel Brown.
Engines or machinery for raising water, part of which machinery is applicable to other useful purposes.	5143	30th March 1825	Rudolphe Cabanel.
Pumps [ <i>working three pistons in one barrel</i> ] - -	5221	19th July 1825	Jonathan Downton.
Engine for effecting a vacuum, and thus producing powers by which water may be raised and machinery set in motion [ <i>by ignition of inflammable gas</i> ].	5350	25th April 1826	Samuel Brown.
Hydraulic machines [ <i>rotary pumps</i> ] - - -	5636	29th March 1828	{ Henry Marriott. Augustus Siebe.
Method, principle, or apparatus for raising water or other fluids [ <i>by a hydro-pneumatic apparatus erected on a tower</i> ].	5677	24th July 1828	Anton Bernhard.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Machine for obtaining mechanical power from falls and running streams of water [ <i>water-wheel or chain-pump</i> ].	5710	25th Sept. 1828	James Neville.
Pump for raising water or other fluids [ <i>horizontal pump</i> ].	5883	23rd Jan. 1830	George Vaughan.
Machinery for raising water; and its application to other purposes.	6119	24th May 1831	Richard Fell.
Mechanical apparatus applicable to the raising of water, and for other useful purposes - - - }	6190	15th Nov. 1831	{ Thomas Brunton. Thomas John Fuller.
Engines for raising or forcing water by the pressure and condensation of steam.	6217	30th Jan. 1832	William Lloyd Wharton.
Raising water or other fluids - - - -	6218	31st Jan. 1832	Thomas John Fuller.
Construction of engines for raising water and other fluids.	6319	10th Oct. 1832	John White.
Machinery for raising water and other liquids -	6337	24th Nov. 1832	Thomas Dodd.
Self-acting force and lift-pump - - - -	6384	11th Feb. 1833	Edward Lucas.
Machinery to be worked by steam or other power for raising water.	6402	28th March 1833	John White.
Construction and application of pumps and machinery for raising fluids, and for other purposes.	6480	1st June 1833	John Barton.
Improvements applicable to raising fluids - -	6585	29th March 1834	John Cooper Douglas.
Machinery for raising water or other fluids - -	6591	10th April 1834	Auguste Victor Joseph D'Asda.
Construction and application of pumps and machinery for raising fluids and for other purposes }	6636	1st July 1834	{ John Barton. Samuel Nye. Joseph Nye.
Machinery for raising water and other liquids -	6667	23rd Aug. 1834	George Child.
Hydraulic presses and pumps - - - -	6709	6th Nov. 1834	Peter Rothwell Jackson.
Pumps - - - - -	6843	2nd June 1835	Joseph Nye.
Manufacture of steam-engine pumps - - - -	6872	7th Aug. 1835	William Mason.
Pumps - - - - -	6968	29th Dec. 1835	John Fussell.
Raising water from mines or excavations, and from other places, by the application and arrangement of a well-known power.	7058	9th May 1836	John Hague.
Pumps - - - - -	7110	7th June 1836	{ Daniel Chambers. Joseph Hall.
Mechanical combinations for obtaining power and velocity, applicable to raising water.	7144	11th July 1836	Matthew Heath.
Machinery for raising water, and for various other purposes.	7176	25th Aug. 1836	François de Tausch.
Water-pressure engine, rendering it more generally applicable for raising water and other substances, and as a motive-power.	7239	3rd Dec. 1836	Robert Armstrong.
Pumps - - - - -	7315	4th March 1837	Samuel Stocker.
Improvements applicable to raising water and other liquids.	7320	10th March 1837	Charles William Celarier.
Combination of machinery to be applied as mechanical agents in a great variety of situations in which toothed gear and other mechanism have been heretofore employed [ <i>pump or machine for raising water</i> ].	7394	17th June 1837	James Buckingham.
Raising water;—applicable to various purposes -	7435	21st Sept. 1837	Samuel Cowling.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Machinery applicable to raising fluids and other bodies.	7482	21st Nov. 1837	Elisha Haydon Collier.
Apparatus for lifting and raising fluids on water or on land.	7691	14th June 1838	Richard Goodridge.
Fire-engines, watering-engines, and other hydraulic machines and apparatus for raising water and other fluids.	7800	8th Sept. 1838	James Ulric Vaucher.
Construction of pumps for raising water or other fluids.	7812	13th Sept. 1838	Frederick Le Mesurier.
Engines useful as pumps - - - - -	7813	13th Sept. 1838	Sir Hugh Pigot.
Machinery applicable to the raising of water for propelling boats, carriages, and other machinery.	7821	27th Sept. 1838	John Hughes Rees.
Pumps for liquids or æriform fluids - - -	7844	3rd Nov. 1838	Jacob Tilton Slade.
Machinery partly applicable to raising water - -	7884	1st Dec. 1838	Peter Taylor.
Pumps for raising or forcing liquids - - -	7987	6th March 1839	Moritz Platow.
Machinery for raising water - - - - -	8063	8th May 1839	Germain Le Normand de L'Osier.
Pumps - - - - -	8112	17th June 1839	Henry le Messurier.
Machinery for raising water - - - - -	8173	1st Aug. 1839	Samuel Sidney Smith.
Engine for pumping water and other liquids - -	8239	10th Oct. 1839	John Swain Worth.
Pumps - - - - -	8284	25th Nov. 1839	Arthur Collen.
Pumps - - - - -	8335	7th Jan. 1840	Jean François Victor Fabien.
Pumps - - - - -	8588	3rd Aug. 1840	George Edward Noon.
Raising water and other fluids - - - - -	8662	15th Oct. 1840	James Hancock.
Hydraulic double-action force and lift pump - -	8685	5th Nov. 1840	John Clarke.
Pumps - - - - -	8856	22nd Feb. 1841	Jonathan Guy Dashwood.
Machine for raising or drawing water or other fluids	8889	22nd March 1841	Richard Barnes.
Engine applicable to the raising of water and other fluids.	9031	21st July 1841	Andrew Smith.
Machinery for raising water and other fluids - -	9071	8th Sept. 1841	Richard Else.
Raising water and other fluids - - - - -	9080	8th Sept. 1841	{ George Mannering. Henry Harrison.
Improvements applicable for raising or forcing water	9191	16th Dec. 1841	Charles Loosey.
Pumps - - - - -	9386	9th June 1842	James Anthony Emalie.
Machinery for raising water and other fluids - -	9452	18th Aug. 1842	Richard Else.
Rotary pumps - - - - -	9678	25th March 1843	Nicolas Henri Jean François Comte de Crouy.
Apparatus connected with steam-engines, for pumping water.	9702	20th April 1843	John George Bodmer.
Machinery partly applicable to raising water - -	9759	6th June 1843	{ Richard Farmer. Joseph Pitt.
Apparatus for raising and lifting water - - -	9971	5th Dec. 1843	John Hick.
Producing motive-power [ <i>pumping fluids</i> ] - -	10,189	17th May 1844	John M'Intosh.
Hydraulic machinery ;—applicable to raising other liquids.	10,291	15th Aug. 1844	Thomas Heaton.
Pumps - - - - -	10,388	29th Aug. 1844	Moses Poole.
Machinery for pumping - - - - -	10,495	25th Jan. 1845	George Henry Taunton.
Pumps [ <i>for raising liquids</i> ] - - - - -	10,567	17th March 1845	Augustus Coffyn.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Raising and drawing off water for driving machinery, which means of raising and drawing off water are applicable for other useful purposes.	10,789	29th July 1845	George Beadon.
Pump or engine for raising and impelling inelastic fluids.	11,062	29th Jan. 1846	Augustus Turk Forder.
Obtaining and applying motive-power [ <i>water-lifting pumps</i> ] - - - - -	11,077	11th Feb. 1846	{ Thomas Clarke. Mark Freeman. John Varley.
Pump applicable to steam-engines and to other purposes.	11,116	2nd March 1846	James Soutter.
Engines worked by steam or other power for raising or forcing water.	11,418	15th Oct. 1846	Ebenezer Southworth.
Improvements partly applicable to the raising of water	11,429	29th Oct. 1846	William Crane Wilkins.
Machinery for obtaining and applying, accelerating and retarding motive-power [ <i>pumps</i> ] - - -	11,442	5th Nov. 1846	{ Frederick Herbert Maberly. Thomas Branwhite. Dennis Lusher.
Apparatus for pumping liquids - - - - -	11,471	1st Dec. 1846	William Mayo.
Hydraulic and pneumatic machines; application of steam or other power thereto [ <i>machinery for raising water</i> ].	11,669	22nd April 1847	John Walker.
Pumping water - - - - -	11,713	22nd May 1847	John Aitken.
Hydraulic apparatus; partly applicable to air apparatus [ <i>pump for raising water</i> ; " <i>Moteur pompe</i> "].	11,807	20th July 1847	Louis Dominique Girard.
Raising water and other liquids from one level to another.	11,839	19th Aug. 1847	William Eaton.
Machinery for raising water and other fluids - -	11,856	6th Sept. 1847	{ James Leadbetter. William Pierce.
Machinery for raising fluids - - - - -	11,884	7th Oct. 1847	Joseph Nye.
Steam-engines [ <i>for pumping</i> ] - - - - -	11,946	6th Nov. 1847	James Pedder.
Pumps - - - - -	12,344	29th Nov. 1848	{ John Lane. John Taylor.
Improvements applicable to pumps and other machines not worked by steam.	12,410	11th Jan. 1849	Robert Urwin.
Pumps - - - - -	12,435	23rd Jan. 1849	Charles De Bergue.
Raising and displacing fluids - - - - -	12,443	27th Jan. 1849	Pierre Frederic Gougy.
Engines principally for pumping water - - -	12,473	12th Feb. 1849	William Edward Newton.
Improvements in machinery which may be used for raising liquids.	12,655	9th June 1849	Joseph Samuda.
Pumps - - - - -	12,673	26th June 1849	Thomas Wood Gray.
Raising water and other fluids - - - - -	12,674	26th June 1849	James Leadbetter.
Pumps - - - - -	12,776	20th Sept. 1849	{ William Peace. Edward Evans.
Machinery applicable to pumping water - - -	12,880	10th Dec. 1849	{ Jonah Davies. George Davies.
Improvements applicable or partly so to pumps and other like machines.	12,885	10th Dec. 1849	Baron Louis lo Presti.
Machinery for pumping; especially adapted for ships' use.	13,135	19th June 1850	Charles Lamport.
Pumps - - - - -	13,185	22nd July 1850	Thomas Mills.
Pumps - - - - -	13,188	23rd July 1850	William Beetson.
Engines applicable as pumps - - - - -	13,271	3rd Oct. 1850	{ William Boggett. William Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Pumps and stuffing-boxes - - - - -	13,272	4th Oct. 1850	Julian Bernard.
Pumps - - - - -	13,319	7th Nov. 1850	{ Samuel Edwards. James Ansell. Patrick Heyns.
Pumps - - - - -	13,320	7th Nov. 1850	George Frederick Morrell.
Pumps - - - - -	13,359	19th Nov. 1850	Robert Brown.
Machinery and apparatus for elevating fluids - -	13,418	19th Dec. 1850	Sebastiano Botturi.
Machinery for raising water and other fluids - -	13,471	23rd Jan. 1851	Auguste Loradoux.
Machinery for pumping, forcing, and exhausting steam, fluids, and gases; adaptation thereof to the saturation, separation, and decomposition of substances [ <i>centrifugal pumps</i> ].	13,577	31st March 1851	John Gwynne.
Pumps - - - - -	13,598	24th April 1851	William Andrews.
Improvements wholly or in part applicable to pumps	13,921	26th Jan. 1852	Joseph Maudslay.
Fountains - - - - -	13,960	9th Feb. 1852	Sanders Trotman.
Pumps - - - - -	14,273	23rd Aug. 1852	Josiah George Jennings.
<b>II.—Raising and forcing.</b>			
Engine for conveying water to dry and barren grounds - - - - -	37	20th Jan. 1627	{ Edmund Felton. John Drewe.
Machine for raising or forcing up water from mines, coal-pits, and other places of great depth.	943	6th Dec. 1769	William Jenkinson.
Engine or machine in which may be employed the power or force of steam, condensed air, descents of water, or any other elastic or gravitating fluid, and which, when a power is applied to the centre or axis to give it motion, is a complete engine or machine for raising, pumping, or forcing in any direction air, water, or any other fluid to any given height or distance, and which engine is constructed on a rotative principle -	1720	15th Jan. 1790	{ Joseph Bramah. Thomas Dickinson.
Machines for raising or moving fluids and other bodies by the power or force of wind, steam, manual labour, or any other given power;—applicable to many useful purposes.	1807	24th May 1791	Samuel Ridge.
Raising and conveying water, steam, gas, or other fluids by pipes of purified earth.	3805	18th April 1814	John Read.
Apparatus for conducting and containing water and other fluids, and preserving the same from the effects of frost [ <i>coating the pipes with pulverized charcoal</i> ].	5077	11th Jan. 1825	Thomas Magrath.
Improvements in or additions to rotatory pumps for raising or forcing water and other liquids.	5116	5th March 1825	Robert Winch.
Gravitating expressing fountain for raising and conveying water or other fluids [ <i>double force pump</i> ].	5149	12th April 1825	William Shalders.
Consolidated or combined drawing and forcing pump - - - - -	5269	21st Oct. 1825	{ Ralph Stephen Pemberton. John Morgan.
Raising or forcing water [ <i>rotary pump</i> ] - - -	5407	25th Aug. 1826	Francis Halliday.
Raising and circulating hot water, hot oils, and other hot fluids for domestic and other purposes.	5711	2nd Oct. 1828	Thomas Fowler.
Raising, lowering, or conveying heated water or other fluids to various distances.	5832	14th Aug. 1829	Edward Weeks.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Machine for raising or forcing water for propelling vessels.	5879	12th Jan. 1830	William Hale.
Improvements applicable to raising or forcing fluids - - - - -	5882	21st Jan. 1830	{ Edward Dakeyne. James Dakeyne.
Machinery applicable for raising or forcing fluids -	6180	13th Oct. 1831	William Hale.
Producing the circulation of fluids through pipes, cisterns, or other vessels;—applicable to warming or cooling the interior of buildings, and for other purposes.	6268	15th May 1832	Charles Augustin Busb.
Machinery or apparatus for raising or forcing fluids	6463	19th Aug. 1833	John Read.
Machines for raising or conveying water or other fluids.	6592	12th April 1834	John Beare.
Pumps, engines, machines or apparatus for drawing, raising, forcing, or propelling water and other fluids.	6603	6th May 1834	William Alfred Noble.
Hydraulic machine [of a centrifugal force, applicable to the raising or forcing water].	6605	8th May 1834	Louis Brunier.
Machinery for impelling or raising fluids - -	7325	15th March 1837	Henry Davies.
Machines to be used for raising or impelling fluids -	7688	14th June 1838	Henry Davies.
Machinery for raising and forcing water and other fluids.	7723	7th July 1838	William Knight.
Hydraulic machines for raising or propelling water and other fluids.	7800	8th Sept. 1838	James Ulric Vaucher.
Improvements in apparatus applicable to raising and forcing fluids.	7854	6th Nov. 1838	William Henry James.
Machinery for raising or forcing water or other fluids.	8247	24th Oct. 1839	James Sutcliffe.
Pumps for raising and forcing water and other fluids.	8368	30th Jan. 1840	Moses Poole.
Engine for raising and forcing fluids - - -	8482	23rd April 1840	Elijah Galloway.
Hydraulic apparatus [for raising and forcing water].	8869	8th March 1841	John Walker.
Machinery applicable for raising or impelling fluids	8963	22nd May 1841	Joseph Woods.
Raising and conveying water and other fluids -	9014	28th June 1841	Thomas Machell.
Propelling fluids - - - - -	9068	6th Sept. 1841	Pierre Pelletan.
Machinery for forcing water and other fluids -	9071	8th Sept. 1841	Richard Elae.
Machinery and apparatus for raising, forcing, conveying, and drawing off liquids - - - - -	9105	28th Sept. 1841	{ Samuel Stocker. George Stocker.
Machinery applicable to raising and impelling fluids	9132	2nd Nov. 1841	{ Robert Holt. Robinson Jackson.
Raising or forcing water - - - - -	9191	16th Dec. 1841	Charles Looney.
Lifting and forcing water and other fluids;—partly applicable to steam-engines.	9216	11th Jan. 1842	John Tressahar Jeffree.
Pumps for raising or forcing water or other fluids -	9321	15th April 1842	John Lamb.
Machinery for propelling air and gases - - -	9398	21st June 1842	John Dickson.
Machinery for raising and forcing water and other fluids.	9411	7th July 1842	John Bird.
Machinery for forcing water and other fluids -	9452	18th Aug. 1842	Richard Elae.
Machinery and apparatus for raising, forcing, conveying, and drawing off liquids.	9460	8th Sept. 1842	John Wordsworth Robson.
Arrangements connected with the circulation of steam in pipes for producing heat, and application of such arrangements.	9508	5th Nov. 1842	Richard Bevan.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Accelerating the flow of water, air, and other fluids through shafts, pipes, and other channels.	9598	19th Jan. 1843	Thomas Sunderland.
Machinery for raising and forcing fluids - - -	9654	2nd March 1843	Charles White.
Improvements partly applicable to raising and forcing water - - - - - }	9758	6th June 1843	{ Richard Farmer. Joseph Pitt.
Machinery for raising and forcing water and other fluids, and which, when worked by steam or water, may be employed for driving machinery.	9765	10th June 1843	Ernst Lentz.
Improvements applicable to pumps for lifting and forcing water.	9919	2nd Nov. 1843	Matthew Leach.
Improvements partly applicable to forcing and lifting water.	9971	5th Dec. 1843	John Hick.
Improvements applicable to machines for raising or impelling fluids.	10,108	14th March 1844	Emanuel Wharton.
Engines for raising or propelling fluids - - -	10,445	21st Dec. 1844	Benjamin Biram.
Machinery for raising and forcing fluids - - -	10,645	29th April 1845	John Read.
Machines for raising and impelling fluids - - -	10,849	2nd Oct. 1845	George Daniel Bishopp.
Conveying water - - - - -	10,875	10th Oct. 1845	James Hardcastle.
Machinery for raising and forcing water - - -	10,989	27th Nov. 1845	John White.
Apparatus applicable to impelling fluids - - -	10,981	5th Dec. 1845	Henry Bessemer.
Machinery partly applicable to drawing and propelling fluids.	11,044	20th Jan. 1846	Peter Taylor.
Machinery for raising and impelling water and other liquids.	11,061	11th Feb. 1846	Charles Tetley.
Apparatus for propelling and compressing air and aeriform bodies.	11,303	23rd July 1846	Peter Claussen.
Engines applicable to raising or forcing water and other similar purposes.	11,418	15th Oct. 1846	Ebenezer Southworth.
Machinery for propelling fluids - - - - -	11,503	21st Dec. 1846	Moses Poole.
Apparatus and machinery for raising, lifting, and otherwise moving heavy bodies [ <i>raising water, and applying the same to drive water-wheels</i> ].	11,509	23rd Dec. 1846	Pierre Frederic Gougy.
Raising or forcing fluids - - - - -	11,639	23rd March 1847	Henry Heycock.
Engines for raising and forcing fluids - - -	12,010	4th Jan. 1848	Edward Humphrys.
Machinery for raising and forcing fluids - - -	12,042	25th Jan. 1848	Henry Hornblower.
Apparatus for raising, forcing, and conveying water and other fluids.	12,253	22nd Aug. 1848	Alonso Buonaparte Woodcock.
Pumps or machinery for raising or forcing fluids -	12,261	4th Sept. 1848	William Wheldon.
Raising and forcing liquids - - - - -	12,303	2nd Nov. 1848	William Bullock Tibbits.
Machinery for raising and displacing fluids - -	12,443	27th Jan. 1849	Pierre Frederic Gougy.
Engines for raising or forcing liquids - - -	12,657	12th June 1849	Joseph Wade Denison.
Machinery for raising and forcing water and other fluids.	12,669	23rd June 1849	Henry Bessemer.
Conveying fluids - - - - -	12,968	12th Feb. 1850	John Macintosh.
Raising and forcing fluids - - - - -	12,285	17th Oct. 1850	John Fowler, junior.
Lifting and moving fluid and other bodies - -	13,324	7th Nov. 1850	John Robinson.
Application of pumps for raising or forcing water -	13,359	19th Nov. 1850	Robert Brown.
Machinery applicable for forcing fluids - - -	13,560	20th March 1851	Henry Bessemer.
Machinery for pumping steam, fluids, and gases -	13,577	31st March 1851	John Gwynne.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Machinery for pumping, forcing, and agitating fluids.	13,779	17th Oct. 1851	Richard Roberts.
Machinery applicable for the transmission of fluids— [For Regulating the flow of Fluids, see "TAPS AND VALVES."]	13,784	22nd Oct. 1851	{ John Platt. Christian Schiele.
<b>III.—Pumping Water from Ships—Ships' Pumps.</b>			
Particular way of forcing water through the bottom or side of ships below the surface or top of the water, being for the public benefit of shipping, and which may be of singular use and ease in navigation	132	16th May 1661	{ Thomas Toogood. James Hayes.
Engines for discharging water out of ships and for other purposes.	205	4th Oct. 1678	Robert Ledgingham.
Pipes, engines, and vessel (by way of hydragogy) for raising water out of ships	308	23rd May 1679	{ George Burton. Silvester Plett. John Drigton.
Engine to clear water out of ships	387	2nd Jan. 1692	Thomas Gladwin.
Making chain-pumps and hand-pumps for ships of war and merchant ships.	340	12th July 1695	Robert Ledgingham.
Engine for raising and discharging water in and out of ships.	473	23rd Dec. 1724	Henry White.
Water-engine for saving ships from danger arising from leaks.	585	30th July 1742	John Tuite.
Pair of pumps for the use of merchant ships and colliers.	678	29th March 1753	Thomas Craven.
Raising water out of ships	865	26th Nov. 1766	John Barber.
Chain-pumps for raising water out of ships, draining land, or for other purposes.	911	16th Dec. 1768	William Cole.
Chain-pump for raising water out of ships, draining lands, or for other purposes	982	17th Jan. 1771	{ John Bentinck. William Cole.
Pump for pumping ships	994	18th July 1771	James Story.
Machine for pumping water out of ships	1108	22nd Nov. 1775	Samuel Miller.
Machine for pumping ships and other places, spontaneously or by the assistance of a small force.	1315	14th Jan. 1782	Hildebrand Morley.
Pumping water from ships	1620	28th Aug. 1787	Thomas Michell.
Pumping ships and vessels under way by means of wheels and other machinery, without manual labour.	1705	29th Oct. 1789	William Whitmore.
Apparatus by which ships and vessels may be discharged of water by means of their own motion;—applicable to purposes in pneumatics, hydrostatics, and hydraulics.	1994	2nd June 1794	William Fitzgerald.
Constructing pumps and engines for evacuating water or other fluids, extinguishing fires, and producing power.	2190	17th Aug. 1797	Anthony George Eckhardt.
Cog-wheel, crab, or capstan, with gear, to work ships' pumps.	2197	31st Oct. 1797	John Harriott.
Machines for pumping ships	2217	28th Feb. 1798	Walter Taylor.
Making pumps and engines for raising and evacuating water and other fluids, and for producing power; peculiarly adapted for the use of ships and vessels.	2260	23rd Aug. 1798	George Dodgson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Hydrostatic engine for raising water out of ships, or for other purposes.	2369	1st Feb. 1800	Thomas Parkinson.
Chain-pumps for ships - - - - -	2390	23rd April 1800	William Collins.
New power applicable to the pumping of vessels -	3628	19th Dec. 1812	John Morgan.
Ships' pumps - - - - -	4313	21st Nov. 1813	George Clymer.
Applying a certain principle to ships' pumps;—useful also for other purposes [ <i>a syphon</i> ].	4498	16th Oct. 1820	Richard Witty.
Pumps or machinery for raising or forcing water, chiefly applicable to ships.	5499	26th May 1827	William John Hobson Hood.
Ship and other pumps [ <i>rotary pumps</i> ] - - -	5662	11th Aug. 1828	Lewis Roper Fitzmaurice.
Engine-pumps, applicable to ships and to other purposes.	6706	3rd Nov. 1834	John Hearle.
Construction of ships and other vessels, and apparatus to be attached to the same [ <i>self-acting ship's pump</i> ].	11,053	20th Jan. 1846	John Spenceley.
Discharging water from ships - - - - -	12,901	19th Dec. 1849	Edward Lyon Berthon.
Ships' and other pumps - - - - -	13,136	10th June 1850	Charles Greenway.
Ships' and other pumps - - - - -	13,995	4th March 1852	George Wilkinson.
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<b>IV.—Pump-buckets, Pistons, and other Parts of Pumps.</b>			
Pinion and rack for pumps where extraordinary power is required.	1115	30th Jan. 1776	Michael Searles.
Construction of suction-chambers, valves, &c. -	2114	31st May 1796	John Strong, junior.
Elliptic valve-box for pumps - - - - -	4141	16th July 1817	Thomas Aspinwall.
Construction of pistons or buckets for pumps -	5457	1st Feb. 1827	John White.
Piece of machinery which, being combined with parts of pumps, will effect an improvement in the same.	5755	14th Jan. 1829	Thomas Smith.
Metallic pistons and pump-buckets - - -	6606	12th May 1834	John M'Dowall.
Construction and adaptation of metallic packages } for pistons of pumps, and for other purposes - }	6638	4th July 1834	{ Benjamin Hick. Edward Evans, senior. John Higgins.
Stuffing-boxes of lift-pumps - - - - -	8408	3rd March 1840	James Horne.
Stuffing-boxes applicable to pumps - - -	8494	5th May 1840	William Beetson.
Stuffing-boxes applicable to pumps - - -	8590	5th Aug. 1840	William Beetson.
Hydraulic machinery [ <i>valve-box for double-acting pumps</i> ].	13,338	12th Nov. 1850	Joseph Nye.
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<b>V.—Working Pumps.</b>			
Method of working the pumps of a ship so as to discharge greater quantities of water in less time than by any method now in use.	699	2nd April 1755	Stephen Wright.
Machine for working pumps, &c. - - - - -	1518	19th Dec. 1785	John Pennington.
Using and working pumps on board ship and on land, by means of a cylinder with its appurtenances.	1651	23rd May 1788	William Fulton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Engine or machine in which may be employed the power or force of steam, condensed air, descents of water, or any other elastic or gravitating fluid, for the purpose of working pumps and engines of every sort, where inanimate power can or may be properly applied to give them motion, and which engine is constructed on a rotative principle	1730	15th Jan. 1790	{ Joseph Bramah. Thomas Dickinson.
Apparatus for working pumps - - - -	2274	27th Nov. 1798	Mark Noble.
Machinery for working pumps - - - -	2647	20th Sept. 1802	James Landels.
Apparatus for working pumps - - - -	2690	21st March 1803	Edward Shorter.
Working pumps by machinery - - - -	2894	19th Nov. 1805	George Wyke.
Chain-pumps, and working the same - . - -	2921	21st March 1806	{ Richard Ottley. James Jeans.
Mode of working two or more pumps for delivering water out of leaky ships, stone-quarries or mines of a moderate depth, employing in the operation only about half the usual manual force, and delivering nearly double the quantity of water.	3592	5th Aug. 1812	Roger Thompson.
Machine for working capstans and pumps on board ships, which may be applied to various other useful purposes.	3736	4th Sept. 1813	Jacob Brazill.
Apparatus or gear for working pumps on board ship.	3851	10th Nov. 1814	William Howard.
Chain-pumps used on board ships - - - -	4116	6th May 1817	William Collins.
Working pumps and other machinery - - - -	4208	23rd Jan. 1818	Thomas Calderbank.
Construction of pumps; machinery for working the same.	4348	13th March 1819	William Tyror.
Machinery to be employed in the working of pumps.	4916	6th March 1824	Joel Spiller.
Working pumps or valves, applicable to fire-engines and other similar apparatus.	8030	11th April 1839	Lot Faulkner.
Apparatus for working pumps - - - -	8752	9th Dec. 1840	Alexander Hqratio Simpson.
Pumps; machinery for working the same;—applicable for working other machinery.	12,783	20th Sept. 1849	William Edward Newton.
<b>VL—Supplying Towns, irrigating Lands, watering Streets.</b>			
Erecting a tunnel or pipe, of timber or lead, with engines for raising water for towns, castles, and houses.	8	9th April 1618	Robert Crumpe.
Three engines for raising and bringing water into towns, castles, and houses - - - -	29	4th March 1624	{ Richard Willis. Robert Crumpe.
Waterworks and mills for raising water for the use of cities, towns, or castles.	188	18th Dec. 1675	James Ward.
Machine for supplying pipes with water for cities and towns.	281	17th Oct. 1691	Thomas Holland.
Raising water for supplying towns, villages, and houses.	355	19th July 1698	John Yarnold.
Machine for raising a continual flux of water, with two barrels only, by locks and chain-works, for supplying cities, towns, and other places with water at a cheap rate, and for watering barren grounds.	410	8th Nov. 1716	Thomas Holland.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Machine and floats for raising water to supply cities, and other purposes.	468	26th Feb. 1724	John Dickins.
Machine for raising water to supply cities and irrigate lands.	472	4th Nov. 1724	Robert Bumpsted.
Engine for raising water for supply of cities, and for other purposes.	496	6th May 1728	Case Billingsley.
Machine for raising water by alternate exhaustion } and pressure of the air, without the help of fire, } for supply of towns, gardens, &c. - - -	507	10th March 1729	{ Thomas Bewley. Thomas Holtham.
Engine for supplying towns, seats, houses, and gardens with water, and also for raising water out of mines or pits at the same time or at different times, and separately for drawing up ore, coal, or other minerals, as there may be occasion.	547	12th Sept. 1734	Anthony Parsons.
Water-engine for supplying towns with water -	585	30th July 1742	John Tuite.
Raising water for the supply of cities - - -	865	26th Nov. 1766	John Barber.
Machine for watering yarn or cloth or whitsterning grounds, crofts, or calico-printing grounds.	1343	16th Nov. 1782	Thomas Harpur.
Using the water produced from condensed steam, and applying water from steam-engine boilers to other purposes than working the engine.	1455	17th Nov. 1784	Sutton Thomas Wood.
Method of supplying water or fluids for domestic or other purposes in a manner more extensively and economically than has hitherto been usually practised [ <i>by pipes from a cistern on the roof</i> ].	4962	22nd May 1824	James Vincy.
Certain improvements in waterworks and in the mode of conveying water for the purpose of flooding and draining lands, which said improvements are also applicable to various other useful purposes.	5094	19th Feb. 1825	Edward Lees.
Machinery for watering streets, roads, and other } ways - - - - -	5728	10th Dec. 1828	{ John Boase. Thomas Smith.
Watering engines - - - - -	7800	8th Sept. 1838	James Ulric Vaucher.
Machinery for watering roads, streets, or ways -	9836	13th July 1843	Stephen Geary.
Construction of street guard-plates for public water service.	9837	13th July 1843	William Midworth.
Construction and arrangement of machinery for } watering streets, roads, lands, and other ways - }	10,356	17th Oct. 1844	{ Frederick Herbert Ma- berly. Stephen Geary. Joseph Croucher.
Machinery and arrangements for the supply and distribution of water for public and private uses, particularly in case of fires.	10,383	7th Nov. 1844	Stephen Geary.
Supplying water - - - - -	11,432	3rd Nov. 1846	{ Henry Headley Parish. Samuel Rootsey.
Machinery used for watering grain - - -	11,571	8th Feb. 1847	John Gedge.
Jet for delivery of water and other fluids; "Protean jet."	11,825	29th July 1847	Francis Starr.
Apparatus for supplying water - - - -	12,098	16th March 1848	John Hosmer.
Carts for the distribution of liquid substances [ <i>for watering streets</i> ].	12,140	27th April 1848	Roger George Salter.
Supplying pure water to cities and towns - -	12,364	24th Nov. 1849	Henry Lamplough.
Irrigating land - - - - -	13,285	17th Oct. 1850	John Fowler, junior.
Construction of roads and ways for the conveyance of passengers, materials, and goods [ <i>using water-tank waggons or carriages to water railways</i> ].	13,653	3rd June 1851	William Bridges Adams.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;C.—continued.</b>			
Apparatus for supplying the inhabitants of towns and other places with water.	13,993	3rd March 1852	James Pilbrow.
Supplying water for baths and other uses - - -	14,091	27th April 1852	{ Alfred Tylor. Henry George Frasi.
<b>VII.—Cisterns and other Reservoirs.</b>			
Making troughs and cistern-heads for receiving or holding water;—applicable to other purposes.	1805	11th May 1791	Charles Wyatt.
Constructing cisterns or reservoirs for filtering, cleansing, and purifying water.	1920	28th Nov. 1792	George Cowen.
Articles denominated "Tatham's clumps," for the purpose of constructing water-pipes, sewers, tunnels, wells, conduits, reservoirs, or other circular walls, shells, or buildings, by various modifications of the said invention, by means of divers methods of shoulderings, securings, and combinations of earth, stone, plaster, cements, composition, kiln-burnt materials, &c., keyed together by means of wedges, joints, clumps, or other fastenings, so that all the pieces may be combined together in forming one strong and secure utensil, apparatus, or contrivance for constructing circular walls, columns, rollers, and for attaining hydraulic communications, or resisting the application of any reasonable force with effect - - - - -	2672	21st Dec. 1802	{ John Scott. James Clarkson. William Tatham. Samuel Mellish.
Wells for receiving chain-pumps - - - - -	2921	21st March 1806	{ Richard Ottley. James Jeans.
Cisterns - - - - -	2963	30th Aug. 1806	John Carey.
Joining slate, stone, and marble, for cisterns and other purposes.	7660	12th June 1838	James Reed.
Making tanks and other vessels of slate, stone, marble, and other materials; fitting and fastening such materials together.	6746	23rd Dec. 1840	Richard Coles.
Construction of tanks or reservoirs for water - -	10,192	22nd May 1844	Thomas Martin.
Manufacture of sinks and other articles of slate or stone.	13,087	30th May 1850	Edwyn John Jeffery Dixon.
Construction and manufacture of reservoirs and receptacles for liquids or solids, from a substance not hitherto used for the purpose [of bitumen, petroleum, or natural pitch of Trinidad].	13,698	22nd July 1851	Thomas Earl of Dundonald.
Improvements applicable to cisterns, tanks, and articles of a like nature - - - - -	14,259	12th Aug. 1852	{ Daniel Adamson. Leonard Cooper.
<b>VIII.—Draining Land and Mines.</b>			
Engines for draining and drawing water from mines, coal-pits, or other minerals.	8	9th April 1618	Robert Crumpe.
Winning and draining grounds overflowed with water.	19	2nd July 1621	Hugh Middleton.
Engine for draining land and mines - - - -	21	8th Aug. 1622	{ David Ramsey. John Jacke.
Three engines for draining water out of mines, minerals, and coal-pits - - - - -	29	4th March 1624	{ Richard Willis. Robert Crumpe.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Draining marshes, whether fresh or salt - -	34	5th Sept. 1626	{ Robert Typper. John Cason.
Engines for drawing water from mines of tin, lead, } copper, and coals, or from other places - - }	37	20th Jan. 1627	{ Edmund Felton. John Drewe.
Engines for draining marsh and fen grounds - -	42	2nd Jan. 1628	Andrewes Burrell.
Engine for draining mines or low grounds, and for other uses.	48	31st July 1629	Captain Thornesse Francke.
Barrel-engine for raising water out of mines, graffs, } coal-pits, or any other place - - - }	49	21st Jan. 1630	{ David Ramsey. Thomas Parker. Edward Bisse. Richard Jarrett.
Engine for draining water out of mines - - -	57	17th April 1632	John Bartholmewe.
Draining flat and level grounds by sluices, channels, or otherwise.	64	30th May 1633	Symon Hill.
Making ten mills for draining fens and marsh grounds.	66	7th Jan. 1634	Christian Derickson.
Engines for drawing and draining water from tin- mines or other places.	67	14th Jan. 1634	Hannyball Vivyan.
Making and using engines for raising water out of mines and other places - - - - }	76	18th Dec. 1634	{ Sir Saunders Duncombe. Richard Farrar. James Martin. Richard Rooks.
Engine for draining mines - - - - -	84	14th July 1635	{ Mathewe Van Dyck. Sir Leventhprye Francke.
Ways, arts, engines, and inventions for draining land.	105	17th May 1637	Robert Chiver.
Engine for drawing and raising water from over- flowed grounds, mines, and coal-pits.	110	6th Nov. 1637	John Evans.
Draining and conveying water to mines and pits; } erecting houses, mills, and works for carrying on the same - - - - - }	117	2nd May 1638	{ Sir George Horsey. David Ramsey. Roger Foulke. Dudd Dudley.
Ways and inventions for draining low and marshy grounds.	125	12th March 1640	Robert Chiver.
Forcing water by means of bellows not worked by wind, and drawing it up with leather bags linked in the manner of buckets where the bellows cannot be placed together; useful also for drain- ing mines, supplying houses, emptying rivers or ponds, and draining and watering grounds - }	132	16th May 1661	{ Thomas Toogood. James Hayes.
Engine with perpetual motion for draining mines and land without the help of any person.	135	19th March 1662	Ralph Wayne.
Springs for draining mines - - - - -	139	— Aug. 1662	{ Thomas Toogood. James Hayes.
Engine made of ropes or chains, with cross-staves fixed on them, and having certain instruments placed on the staves, which, by means of valves, emit air and yet retain water; applicable to the draining of mines and pits; exhaling or draining away water in pipes without the help of suckers or buckets.	142	2nd Dec. 1663	Thomas Toogood.
Machine for cutting drains, lines, or trenches -	150	16th May 1666	Lewis Baylie.
Windmill for draining mines and grounds - -	174	27th Feb. 1674	John Johnson.
Engine with pipes and bags, applicable for the draining of mines and land.	179	20th April 1675	Thomas Toogood.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Engine or pump for drawing water by the aid of one barrel, for the purpose of draining mines, and for other similar uses.	186	12th Nov. 1675	Thomas Neale.
Waterworks and mills for draining grounds - -	188	18th Dec. 1675	James Ward.
Engines with leather pipes for draining mines and divers other uses - - - - - }	189	21st June 1676	{ Goodwin Wharton. Bernard Strode.
Engine for discharging water out of mines - -	205	4th Oct. 1678	Robert Ledgingham.
Pipes, engines, and vessels (by way of hydragogy) } for draining mines and land - - - - }	208	23rd May 1679	{ George Burton. Silvester Plett. John Drigton.
Draining mines - - - - - }	212	25th June 1681	{ William Pawley. Edward Dallow.
Engine to raise and throw out water from deep } mines - - - - - }	215	29th Aug. 1681	{ John Joachim Becher. Henry Searle. Henry Vincent. John Weale. Samuel Weale.
Engine for drawing water out of mines - - -	218	12th May 1682	{ John Tredenham. Charles Vivian. John Trewren. William Harris.
Engine for draining mines - - - - -	219	17th June 1682	Robert Aldersey.
Draining brine-pits - - - - -	222	31st July 1682	William Marbury.
Machine for draining mines - - - - -	281	17th Oct. 1691	Thomas Holland.
Engine for draining mines - - - - -	287	2nd Jan. 1692	John Gladwin.
Engine useful in the draining of mines - - -	307	— — 1692	Thomas Hutton.
Machine for draining mines and meads - - -	321	29th April 1693	John Bushnell.
Engines for draining mines - - - - -	348	24th Jan. 1696	Evan Jones.
Raising and discharging water out of mines, meres, ponds, or vessels; pipes and other instruments employed for the purpose.	349	6th March 1696	Samuel Buttall.
Draining mines, meres, and marshes - - -	355	19th July 1698	John Yarnold.
Draining mines - - - - -	356	25th July 1698	Thomas Savery.
Engine with ladles turning circularly on their axes, } for draining water - - - - - }	359	1st Dec. 1698	{ Thomas Fleetwood. Edward Booth. John Liddell.
Engine for drawing water out of deep mines - -	397	27th May 1714	{ John Coster. John Coster, junior.
Engine for draining lands and mines - - -	410	8th Nov. 1716	Thomas Holland.
Machine for drawing water out of coal-pits, salt-pits, and copper and lead mines.	414	12th July 1717	Edward Shuttleworth.
Machine for drawing water out of mines and collieries, by the power of the atmosphere.	449	29th June 1722	Martin Triewald.
Machine for draining mines - - - - -	457	22nd Sept. 1723	Matthew Palmer.
Machine and floats for draining mines, and for other purposes.	463	26th Feb. 1724	John Dickins.
Engine which works by means of suction and forming pumps by means of a screw or worm, for drawing water from mines or pits to a considerable height - - - - - }	465	11th April 1724	{ John Taylor. Robert Winterbottom.
Machine called a syphon or an attracting engine, } for draining mines, moors, and marshes - - }	468	15th April 1724	{ William Mason. Thomas Chainflower.
Machine for raising water to drain lands - -	472	4th Nov. 1724	Robert Bumpsted.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Engine for draining mines, overflowed lands, and marshes - - - - - }	476	5th April 1725	{ Thomas Nuttall. Joseph Shyrin.
Engine for raising water for draining mines, and for other purposes.	496	6th May 1728	Case Billingsley.
Engine or machine for draining mines, pits, docks, and fens - - - - - }	507	10th March 1729	{ Thomas Bewley. Thomas Holtham.
Draining mines - - - - -	513	7th Aug. 1729	John Allen.
Machine worked by the united power of weight and draught, for draining lands, coal-pits, and mines.	539	21st March 1733	Walter Churchman.
Engine for raising water out of mines or pits;—applicable to other purposes.	547	12th Sept. 1734	Anthony Parsons.
Draining mines - - - - -	561	24th June 1738	John Kay.
Water-engine for draining lands and mines - -	565	30th July 1742	John Tuite.
Engine for draining fens - - - - -	595	5th Jan. 1744	John Gregory, senior.
Machine for draining fen lands - - - - -	609	6th Sept. 1744	William Perkins.
Machine for draining mines - - - - -	648	29th July 1749	{ Thomas Stokoe. William Newton.
Engine for draining mines and lands - - - -	658	24th Nov. 1750	William Perkins.
Machine for draining or flooding lands, and for other purposes.	668	11th Feb. 1752	Edward Coleman.
Engine for draining lands, and for other purposes -	671	25th June 1752	{ John Tuite. John Donaldson. Charles Spivey.
Engine for draining water from fenny, moorish, and drowned lands.	704	10th Sept. 1755	James Collier.
Fire-engine or machine for drawing water out of mines, draining lands, and for other purposes.	730	27th Sept. 1758	James Brindley.
Fire-engine for draining mines, coal-pits, and lands -	781	6th Feb. 1761	Jonathan Greenall.
Draining mines - - - - -	865	26th Nov. 1766	John Barber.
Machine upon an enlarged plan, available for raising water out of mines, and thereby economizing the expenses of fuel - - - - }	876	18th May 1767	{ John Duncombe. Joseph Pohle.
Machine for draining mines - - - - -	883	2nd Nov. 1767	Thomas Stokoe.
Machine or engine for raising water out of mines and wells, and for draining lands.	897	14th March 1768	Samuel Wise.
Chain-pumps for draining land - - - - -	911	16th Dec. 1768	William Cole.
Machine or engine for drawing, raising, or forcing up water, from all mines, minerals, coal-pits, and other places, from great depths to great heights.	943	6th Dec. 1769	William Jenkinson.
Chain-pump for draining land - - - - -	982	17th Jan. 1771	{ John Bentinck. William Cole.
Machine for pumping water out of mines or pits, and which by the force of one pound weight will raise fifty pounds as many feet as the one pound descends; will also enable one man to pump as much water as has been hitherto done by thirty.	994	18th July 1771	James Storey.
Water-wheel for draining fens and low lands - -	1023	27th Aug. 1772	Anthony George Eckhardt.
Machine for draining mines - - - - -	1118	12th March 1776	John Barber.
Machine for draining mines - - - - -	1313	2nd Jan. 1782	John Richmond.
Machine for draining mines - - - - -	1315	14th Jan. 1782	Hildebrand Morley.
Engine for draining mines - - - - -	1480	15th Jan. 1785	Christopher Gullet.
Machine for drawing and raising water out of mines, and for other purposes.	1601	10th May 1787	James Storey.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Draining land - - - - -	1620	28th Aug. 1787	Thomas Michell.
Machine for draining mines - - - - -	1702	5th Sept. 1789	Robert Cameron.
Steam-engine for draining mines - - - - -	1810	18th Oct. 1792	William Williamson.
Implement for draining land - - - - -	2195	19th Oct. 1797	Harry Watts.
Hydrostatic engine or machine for the purpose of raising water out of mines, or for any other purpose where fluids are required to be raised.	2369	1st Feb. 1800	Thomas Parkinson.
Plough or machine for draining land - - - - -	2373	4th Feb. 1800	Richard Lumbert.
Plough for underdraining land - - - - -	3242	8th June 1809	Mark Dobito.
Draining land - - - - -	3343	8th June 1810	George Hickford.
Ploughs for underdraining land - - - - -	4372	18th May 1819	Tew Cowper.
Draining lands - - - - -	4385	22nd June 1819	Edward Jordan.
Certain improvements in waterworks and in the mode of conveying water for the purpose of flooding and draining lands, which said improvements are also applicable to various other useful purposes.	5094	19th Feb. 1825	Edward Lees.
Method of drawing water out of mines, wells, pits, and other places [ <i>by means of condensed air</i> ].	5437	20th Dec. 1826	Charles Seidler.
Draining land; machinery and apparatus applicable thereto.	6267	15th May 1832	John Heathcoat.
Raising water from mines and deep places - - -	7248	9th Dec. 1836	Henry Adcock.
Combination of machinery to be applied as mechanical agents in a great variety of situations in which toothed gear and other mechanism have been heretofore employed [ <i>machinery for draining mines</i> ].	7394	17th June 1837	James Buckingham.
Raising water from mines and other deep places, or from a lower level to a higher;—applicable to raising liquids generally, and to other purposes.	7648	22nd May 1838	Henry Adcock.
Draining land, embankments, cuttings of railways, and other engineering works.	9371	31st May 1842	Richard Watson, junior.
Machinery to be used for drain-cutting and subsoiling.	10,483	21st Jan. 1845	John Seller.
Apparatus and machinery for draining land - - -	10,730	23rd June 1845	William Morris.
Power-machines for draining land; modes of working the same.	11,304	23rd July 1846	John Tulloh Osborn.
Draining land; implements to be used therein - -	11,698	8th May 1847	{ Amos Bryant. Richard Tothill.
Apparatus and means used for draining land [ <i>drain pipes or tubes</i> ].	11,700	10th May 1847	John Martin.
Cutting or forming drains in land - - - - -	11,818	29th July 1847	Joseph Paul.
Improvements applicable to pumping mines, and to other purposes.	12,674	26th June 1849	James Leadbetter.
Raising water for draining and other agricultural purposes.	12,930	17th Jan. 1850	Henry Cowing.
Draining land - - - - -	12,989	7th March 1850	John Fowler, junior.
Machinery or apparatus to be used in draining land [ <i>drain-ploughs</i> ].	13,076	22nd May 1850	Robert Cotgreave.
Draining land - - - - -	13,285	17th Oct. 1850	John Fowler, junior.
[See also "PIPES AND TUBES."] <hr/>			

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
<b>IX.—Draining Towns and other Places.</b>			
<b>1. (Making Sewers and Drains.)</b>			
Articles denominated "Tatham's clumps," for the purpose of constructing water-pipes, sewers, tunnels, wells, conduits, reservoirs, or other circular walls, shells, or buildings, by various modifications of the said invention, by means of divers methods of shoulderings, securings, and combinations of earth, stone, plaster, cements, composition, kiln-burnt materials, &c., keyed together by means of wedges, joints, clumps, or other fastenings, so that all the pieces may be combined together in forming one strong and secure utensil, apparatus or contrivance for constructing circular walls, columns, rollers, and for attaining hydraulic communications, or resisting the application of any reasonable force with effect	2672	21st Dec. 1802	John Scott. James Clarkson. William Tatham. Samuel Mellish.
Sewerage and drainage; apparatus connected therewith.	11,426	22nd Oct. 1846	James Lysander Hale.
Apparatus and means for draining cities, towns, and other inhabited places, also land.	11,700	10th May 1847	John Martin.
Construction of drains, sewers, and cesspools	12,140	27th April 1848	Roger George Salter.
Manufacture of sinks and other articles of slate or stone.	13,087	30th May 1850	Edwyn John Jeffery Dixon.
Construction of sewers	13,088	1st June 1850	Thomas Page.
Construction and manufacture of sewers, drains, water-ways, pipes, reservoirs, and receptacles for liquids or solids, from a substance not hitherto used for the purpose [ <i>bitumen, petroleum, or natural pitch of Trinidad</i> ].	13,688	22nd July 1851	Thomas Earl of Dundonald.
<b>2. (Cleansing Sewers; preventing Effluvium from Drains.)</b>			
Machine or stink-trap of metal or earthenware, to prevent the disagreeable smell from drains.	1330	19th June 1782	John Gaittait.
Method of cleaning out watercourses	5698	4th Sept. 1828	William Farish.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>forming stink-traps</i> ].	11,149	25th March 1846	Charles Smith.
Cleansing sewers and drains	11,456	19th Nov. 1846	William Ashe.
Apparatus for sweeping and cleansing drains and other places.	11,961	13th Nov. 1847	George Taylor.
Apparatus for cleansing sewers and drains	12,098	16th March 1848	John Hosmer.
Cleansing drains and sewers and cesspools	12,140	27th April 1848	Roger George Salter.
Apparatus for preventing the rise of effluvium from drains, sewers, cesspools, and other places.	12,584	26th April 1849	Thomas Harcourt Thompson.
Traps to be applied to closets, drains, sewers, and cesspools.	12,784	20th Sept. 1849	Charles Marsden.
Grates or grids for sewers, drains, and similar purposes.	12,798	12th Oct. 1849	Joseph Lowe.
Apparatus connected with sewers, drains, and cesspools; the apparatus for sewers being applicable to other like purposes.	12,922	11th Jan. 1850	Bennett Alfred Burton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Cleansing sewers - - - - -	13,088	1st June 1850	Thomas Page.
Apparatus connected with water-closets, drains, and cesspools, and gas and air traps. [For Purifying Water, see "FILTERING."]	13,195	25th July 1850	Charles William Bell.
<b>X.—Hydraulic Engines and Water-wheels; moving Machinery by Water.</b>			
Making and erecting mills on barges or lighters in the river Thames.	12	28th Jan. 1619	Samuel Cotton.
Erecting water-mills on standing waters, lakes, and ditches - - - - -	62	12th April 1633	{ Melchior Goyvarts. Peter le Februe.
Horizontal wheels to be moved by water or by wind; raising and letting down vertical wheels, so as to render them useful at all heights of the water.	315	3rd March 1693	John Hadley.
Machine or model for more advantageously applying the fall of water on a wheel-engine.	567	8th June 1739	Nehemiah Champion.
Horizontal wheel - - - - -	508	15th March 1764	Joseph Thornhill.
Machine which performs its operations either by the agency of fire, fall of water, or both, with reduced friction.	848	10th June 1766	William Blakey.
Water-wheel for drawing coals - - - - -	671	13th March 1767	Joseph Oxley.
Hydraulic engine worked by water, for drawing up ores and other weights from mines and other deep places, in lieu of whims and cranes.	1044	17th June 1773	Christopher Gullett.
New discovered invention of the working of a water-mill by the force of water from any river or place where the tide ebbs and flows, at all times whether at high or low water, or whether the tide ebbs or flows, by a particular contrivance and invention of conveying the water to and from the wheel, by which means the wheel is in constant motion, and never stops but at the manager's pleasure.	1070	19th May 1774	Joseph Jackson.
Pinion and rack for water-engines where extraordinary power is required.	1115	30th Jan. 1776	Michael Searles.
Re-action machine, set in motion by water or other fluid.	1426	10th April 1784	Wolfgang De Kempelen.
Hydrostatical machine and boiler, for working mechanical and other engines.	1478	9th May 1785	Joseph Bramah.
Improvements which are applicable in hydraulic and other engines, mills, and machinery where spindles, axletrees, cranks, or arbors are used, which do not work on centre points.	1514	9th Dec. 1785	John Shankster.
Destroying friction in water-mills - - - - -	1602	12th May 1787	Watkin George.
Turning mills or machines by water or other fluid -	1603	15th May 1787	James Cooper.
Engine or machine constructed on a rotative principle, and in which may be employed the power or force of water or other fluid for the purpose of working mills, pumps, or other machines; also, when a power is applied to the axis, is rendered suitable for raising, pumping, or forcing steam, air, or other fluids - - - - -	1720	15th Jan. 1790	{ Joseph Bramah. Thomas Dickinson.
Giving motion to machines by the power of water, air, or steam, separately or together.	1735	24th March 1790	James Rumsey.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Mill, machine or machinery, with double power overshot wheels and flood-gates, calculated to prevent mills and other works driven by water from being flooded or impeded by back water.	1784	3rd March 1791	William Shorland.
Giving motion to machines and engines by the power of water or steam, either separate or together.	1825	25th Aug. 1791	James Rumsey.
Construction of water-mills - - - - -	1890	14th June 1792	George Silvester.
Giving motion to machines by the force of water and other fluids.	1903	24th July 1792	James Rumsey.
Machine to be wrought by water - - - - -	1920	22nd Dec. 1792	Thomas Parker.
Constructing and working mills - - - - -	1997	28th June 1794	William Bruce Dunn.
Water-engine for working mills - - - - -	1998	15th July 1794	Thomas Shurmur.
Moving horizontal mills by the power of water -	3200	31st Oct. 1797	Robert Beatson.
Machine upon hydrostatic principles to produce very considerable mechanical power;—applicable to all the purposes of a steam-engine, but without the use of fire, steam, or water-wheel [ <i>hydraulic engine, acting by the pressure of water or other non-elastic fluids</i> ].	2297	28th Feb. 1799	John Luccock.
Hydraulic engines for moving machines - -	2472	5th Feb. 1801	Joseph Gaston John Baptiste Count de Thiville.
Giving power to machinery by means of water -	2534	20th Aug. 1801	Lionel Lukin, junior.
Method of working water-wheels, raising water, and in a great measure preventing water-wheels from being flooded, and for other purposes.	2710	14th June 1803	James Fussell.
Construction of water-mills - - - - -	2724	28th July 1803	John Norton.
Combining and disposing machinery for mills moved by water.	3264	26th Sept. 1809	William Watts.
Wheel or wheels to be moved by water or any other suitable fluids, to be applicable to mechanic or other purposes where a moving force is required.	3335	9th May 1810	William Chapman.
Saving water in mechanical and hydraulic operations	3608	31st Oct. 1812	Peter Nouaille.
Series of improvements in the construction, uses and mode of navigating ships and vessels of various denominations, in marine and inland navigation, and for abstracting for separate use such powers and machinery as form an hydrostator or mill.	3827	26th July 1814	William Doncaster.
Metallic engine to work by water; "Bodley's improved engine."	4019	27th April 1816	George Bodley.
Constructing and working engines or machines for lifting or raising weights, turning machinery of all descriptions, drawing carriages on railways, and capable of being applied to all purposes where mechanical power is required; "Hydro-pneumatic engine."	4021	4th May 1816	John Rangeley.
Water-wheel for draining marsh lands - - -	4385	22nd June 1819	Edward Jordan.
Water-wheel applicable to mills and navigable bodies; other improvements also applicable to mills and other navigable bodies.	4416	4th Dec. 1819	Samuel Lambert.
Machinery or apparatus which may be worked by water as a moving-power.	4516	9th Dec. 1820	John Moore, junior.
Machinery to be worked by water for moving mills and other machinery, and for forcing or pumping water [ <i>to be worked by the flowing of the tide</i> ].	4650	22nd Feb. 1822	Elisha Peck.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Impelling machinery [ <i>by a water-wheel</i> ] - - -	4761	18th March 1823	{ George Emanuel Harpur. Benjamin Baylis.
Working water-wheels [ <i>submerged wheels made to revolve by forcing air into the buckets</i> ].	5053	9th Dec. 1824	William Moulst.
Combination of wheels designed for driving machinery, which are to be impelled by water or by wind, and which improvements are also applicable to propelling boats and other vessels.	5455	1st Feb. 1827	John Oldham.
Diminishing friction in water-wheels and other rotary parts of machinery.	5542	15th Aug. 1827	William Spong.
Working undershot water-mills [ <i>constructing the wheel</i> ].	5587	15th Dec. 1827	Andrew Motz Skene.
Improvements applicable to water-wheels and to other purposes.	5611	19th Jan. 1828	George Jackson.
Machinery to combine with parts of water-wheels -	5755	14th Jan. 1829	Thomas Smith.
Machine or hydraulic engine for applying the power or pressure of water, steam and other elastic fluids, to the working of machinery and other uses requiring power; and applicable to the raising or forcing of fluids - - - -	5882	21st Jan. 1830	{ Edward Dakeyne. James Dakeyne.
Hydraulic power engine - - - - -	6563	27th Feb. 1834	Vincent Nolte.
Construction of water-wheels - - - - -	6760	9th Feb. 1835	James Leeming.
Wheel applicable to mill machinery of every description moved by water.	6761	9th Feb. 1835	James Halstead.
Improvements applicable to the construction of } water-wheels for mills - - - - - }	6998	9th Feb. 1836	{ Alexander Massie. Robert Morton. William <u>Ranwell</u> . Ebenezer Ranwell.
Machinery for water-wheels - - - - -	7007	17th Feb. 1836	William Bucknall.
Engines to be worked by water or other fluids -	7938	15th Jan. 1839	William Whitham.
Water-wheels - - - - -	7950	24th Jan. 1839	Robert Copland.
Rotary machine to be worked by the pressure and re-action of a column of water, and which may be used as a steam-engine; also an improved water-meter, and a machine for raising water or other liquid by its centrifugal force.	8061	7th May 1839	James Whitelaw.
Applying water-power - - - - -	8287	2nd Dec. 1839	George Davey.
Rotary engine to be actuated by water - - -	8315	16th Dec. 1839	{ Monnin Japy. Constant Joffroy Dumery.
Arrangement and construction of water-wheels -	8542	11th June 1840	Benjamin Winkles.
Making paddle-wheels for propelling mills - -	8714	25th Nov. 1840	Henry Charles Daubeny.
Engines to be worked by water - - - - -	9027	13th July 1841	Benjamin Beale.
Rotary machines to be worked by water - - -	9099	23rd Sept. 1841	{ James Whitelaw. James Stirrat.
Improvements in hydraulic machines to be applied as a motive-power.	9873	22nd Aug. 1843	Gaspere Conti.
Water machines or engines, and the mode of traction on or in canals or other waters [ <i>mode of working dredging-machines by means of the power of the tide</i> ].	<u>10,141</u>	10th April 1844	John Aitken.
Hydro-mechanic apparatus to supersede fire and steam in working and propelling machinery.	<u>10,425</u>	7th Dec. 1844	William Willcocks Sleight.
Oscillating engines to be worked by water or other fluids;—applicable to the raising or propelling of fluids.	<u>10,445</u>	21st Dec. 1844	Benjamin Biram.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER, &amp;c.—continued.</b>			
Hydro-pneumatic engine - - - - -	<a href="#"><u>10,771</u></a>	12th July 1845	John Shaw.
Machinery for raising and impelling water and other liquids, and also thereby to obtain mechanical power [ <i>hydraulic engine</i> ].	<a href="#"><u>11,061</u></a>	11th Feb. 1846	Charles Tetley.
Apparatus and machinery for raising, lifting, and otherwise moving heavy bodies [ <i>raising water, and applying the same to drive water-wheels</i> ].	<a href="#"><u>11,509</u></a>	23rd Dec. 1846	Pierre Frederic Gougy.
Hydraulic and pneumatic machines; application of steam or other power thereto [ <i>machinery for raising water</i> ].	<a href="#"><u>11,669</u></a>	22nd April 1847	John Walker.
Hydraulic apparatus;—partly applicable to air apparatus [ <i>for obtaining power by a fall of water; "Moteur pompe"</i> ].	<a href="#"><u>11,807</u></a>	20th July 1847	Louis Dominique Girard.
Improvements partly applicable to rotatory engines worked by water.	<a href="#"><u>12,028</u></a>	13th Jan. 1848	Robert Wilson.
Water-pressure engine - - - - -	<a href="#"><u>12,157</u></a>	11th May 1848	William George Armstrong.
Hydraulic engines - - - - -	<a href="#"><u>12,349</u></a>	2nd Dec. 1848	Francis Hastings Greenstreet.
Hydraulic and pneumatic engines - - - - -	<a href="#"><u>12,576</u></a>	17th April 1849	George Remington.
Hydro-pneumatic engines - - - - -	<a href="#"><u>12,857</u></a>	22nd Nov. 1849	François Justin Duberguet.
Engine worked by water, whether locomotive, marine, or stationary - - - - -	<a href="#"><u>12,880</u></a>	10th Dec. 1849	{ Jonah Davies. George Davies.
Hydraulic machinery - - - - -	<a href="#"><u>12,931</u></a>	17th Jan. 1850	Joseph Nye.
Hydraulic machinery [ <i>available as motive-power</i> ] -	<a href="#"><u>13,156</u></a>	3rd July 1850	James Thomson.
Hydraulic machinery - - - - -	<a href="#"><u>13,333</u></a>	12th Nov. 1850	Joseph Nye.
Construction of machinery for supplying rotatory motion to water-mills, &c.	<a href="#"><u>14,242</u></a>	29th July 1852	Frederick Winter.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER-CLOSETS, CESSPOOLS, AND URINALS.</b>			
<b>I.—Constructing.</b>			
Water-closets - - - - -	1105	11th Nov. 1775	Alexander Cumming.
Water-closets - - - - -	1160	14th July 1777	Lemuel Prosser.
Water-closets - - - - -	1177	27th Jan. 1778	Joseph Bramah.
Pot or pan applied to a night-stool to prevent offensive smell.	1336	1st Aug. 1782	James Crease.
Machine or apparatus applicable to water-closets, night tables or chairs.	1372	17th May 1783	Daniel Riz.
Constructing water-closets ; — applicable to other purposes.	1714	8th Dec. 1789	Thomas Rowntree.
Self-acting water-closets - - - - -	1675	12th May 1792	John Ashley.
Machine or apparatus for water-closets and privies, which, operating on a self-acting principle, supplies with water, empties, and washes the basin, using only a given quantity of water; the apparatus may be applied to water-closets constructed on other principles.	1937	15th March 1793	Thomas Binns.
Water-closets - - - - -	2111	31st May 1796	William Law.
Machine answering the several purposes of a portable water-closet, bidet, and easy-chair.	2352	4th Nov. 1799	Thomas Binns.
Valve water-closets, and the frames or stools thereof	4051	3rd Aug. 1816	John Chalklen.
Moveable and inodorous conveniences - - -	4410	18th Nov. 1819	Louis Fauche Borel.
Construction of water-closets; apparatus connected therewith [ <i>self-acting</i> ].	4931	27th March 1824	Edward Jordan.
Water-closets - - - - -	4948	6th May 1824	James Viney.
Water-closets - - - - -	5019	14th Oct. 1824	Henry Marriott.
Water-closets - - - - -	5101	19th Feb. 1825	John Beacham.
Water-closets - - - - -	5187	18th June 1825	Jonathan Downton.
Water-closets [ <i>self-acting</i> ] - - - - -	5408	25th Aug. 1826	William Downe, senior.
Mechanism of water-closets - - - - -	5531	12th July 1827	John Snelson Shenton.
Construction of water-closets - - - - -	5852	23rd Sept. 1829	Hayward Tyler.
Earthenware pans or basins of water-closets, and certain other earthenware vessels to which the same may be applied.	6656	12th Aug. 1834	Thomas Gaunt.
Construction of water-closets - - - - -	6636	13th May 1835	John Ody.
Water-closets - - - - -	7398	7th July 1837	Freeman Roe.
Night commode pans - - - - -	7401	10th July 1837	William Chubb.
Water-closets - - - - -	7421	24th Aug. 1837	{ James Crellin. James Holt.
Water-closets and other conveniences of the kind -	7510	13th Sept. 1838	Thomas Swinburne.
Stuffing-boxes applicable to water-closets - -	8494	5th May 1840	William Beetson.
Water-closets [ <i>valves and valve-seats</i> ] - - -	8590	5th Aug. 1840	William Beetson.
Water-closets - - - - -	8678	2nd Nov. 1840	John Wordsworth Rob- son.
Covers for water-closets, night-stools, and bed-pans	8908	29th March 1841	John Lindsay.
Water-closets - - - - -	8971	27th May 1841	George Hulme.
Water-closets - - - - -	9272	1st March 1842	Thomas Smith.
Fixed and portable water-closets - - - - -	9758	6th June 1843	{ Richard Farmer. Joseph Pitt.
Construction of water-closets - - - - -	9846	20th July 1843	Henry Austin.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATER-CLOSETS, &amp;c.—continued.</b>			
Urinary utensils - - - - -	<a href="#">10,104</a>	14th March 1844	John Browne.
Domestic convenience - - - - -	<a href="#">10,328</a>	26th Sept. 1844	Thomas Clark.
Water-closets - - - - -	<a href="#">10,608</a>	10th April 1845	Samuel Stocker.
Water-closets ;—partly applicable to other purposes	<a href="#">11,164</a>	15th April 1846	Joseph Bunnett.
Water-closets - - - - -	<a href="#">11,218</a>	26th May 1846	John Walker Wilkins.
Water-closets, and making joints and connections of pipes.	<a href="#">11,728</a>	3rd June 1847	Josiah George Jennings.
Constructing water-closets - - - - -	<a href="#">12,350</a>	2nd Dec. 1848	John Armstrong.
Water-closets - - - - -	<a href="#">12,465</a>	8th Feb. 1849	William Tooth.
Water-closets - - - - -	<a href="#">12,673</a>	26th June 1849	Thomas Wood Gray.
Construction of privies and urinals - - -	<a href="#">13,097</a>	4th June 1850	Paul D'Angely.
Water-closets - - - - -	<a href="#">13,188</a>	23rd July 1850	William Beetson.
Apparatus connected with water-closets, drains, and cesspools.	<a href="#">13,195</a>	25th July 1850	Charles William Bell.
Water-closets and urinals - - - - -	<a href="#">13,204</a>	31st July 1850	Henry Rishton.
Commodos, and fixed and portable water-closets -	<a href="#">13,395</a>	7th Dec. 1850	{ John Everest. George Osborne.
Construction of water-closets - - - - -	<a href="#">14,091</a>	27th April 1852	{ Alfred Tylor. Henry George Frasi.
Water-closets, traps, valves, and pumps - - -	<a href="#">14,273</a>	23rd Aug. 1852	Josiah George Jennings.
<b>II.—Cleansing and preventing Effluvia from Water-closets and Cesspools.</b>			
Traps for privies, water-closets, close-stools, or chamber conveniences to which the same may be applicable [ <i>self-acting valve or air-trap</i> ].	<a href="#">4595</a>	18th Oct. 1821	Stephen Hawkins.
Apparatus for supplying water to water-closets -	<a href="#">7068</a>	23rd April 1836	James Findon.
Machinery for emptying privies and cesspools -	<a href="#">10,363</a>	22nd Oct. 1844	Moses Poole.
Cleansing privies - - - - -	<a href="#">11,456</a>	19th Nov. 1846	William Ashe.
Cleansing cesspools - - - - -	<a href="#">12,140</a>	27th April 1848	Roger George Salter.
Traps to be applied to closets - - - - -	<a href="#">12,784</a>	20th Sept. 1849	Charles Marsden.
Apparatus and machinery for cleansing privies, cesspools, and other places.	<a href="#">13,097</a>	4th June 1850	Paul D'Angely.
Apparatus for regulating the supply of water to water-closets and other vessels.	<a href="#">14,001</a>	8th March 1852	Frederick George Underhay.
Supplying water-closets with water - - - - -	<a href="#">14,091</a>	27th April 1852	{ Alfred Tylor. Henry George Frasi.
Traps for water-closets - - - - -	<a href="#">14,273</a>	23rd Aug. 1852	Josiah George Jennings.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATERPROOFING AND FIREPROOFING.</b>			
<b>I.—Fabrics, Wearing-apparel, Skins, Materials, and Substances.</b>			
Making engines, instruments, and devices for making and preparing certain stuffs and skins to hold out wet and rain.	40	8th Dec. 1627	John Jasper Wolfen.
Making woollen cloth impermeable to rain, as well for journeying as for saving much leather that is now wasted in covering coaches and waggons - }	77	19th Dec. 1634	{ John Eyres. Charles Mowate. John Mowate. John Wallis.
Ordering all sorts of linen and woollen cloths and other manufactures thereof, and all sorts of silks, stuff hats, and leather, so as to make them hold out water; and also for preventing woollen cloths and manufactures and hats from being injured by moths and mildew.	275	— Sept. 1691	William Sutton.
Making or preparing paper, linen, canvas, and such like substances, which will neither flame nor retain fire, and which hath also a property in it of resisting moisture and damps, which will be of great use for making cartridges, hangings for rooms, and divers other purposes, whereby great damages happening by fire will be prevented.	551	17th March 1735	Obadiah Wyld.
Method to prepare woollen cloth and hats, so as to keep out more than a day's or a week's rain, without impairing the beauty or strength of the cloth or hats.	632	27th June 1748	Joshua Wheeler.
Making and rendering elastic and waterproof all sorts of painted, printed, varnished, or japanned linen, cotton, woollen cloths, stuffs, or silk, or any material interwoven therewith.	1721	15th Jan. 1790	Samuel Young Hunclass.
Making and rendering perfectly waterproof all kinds of leather, cotton, linen, and woollen cloths, silks, stuffs, paper, wood, and other manufactures and substances, for the purpose of being made up into shoes, boots, and other wearing-apparel, and to be used on all occasions where dryness or a power of repelling wet or moisture may be required.	1801	2nd May 1791	Samuel Peal.
Method of making all kinds of leather and various other articles waterproof, for the purpose of being made up and used in a variety of necessary articles of consumption.	1975	19th Jan. 1794	John Bellamy.
Method of rendering all kinds of woollen cloth impenetrable to moisture or wet, or waterproof, so as to render even the finest sorts in a condition to resist rain in every situation and for any length of time, without in the least degree affecting their beauty, colour, or wear.	2199	31st Oct. 1797	John Parrish.
Art or method of changing and converting skins of parchment and vellum into leather, and making such leather waterproof.	2442	15th Sept. 1800	James Hitchcock.
Method of rendering all sorts of woollen cloths, cotton, linen, silk, hats, paper, and other manufactures and substances perfectly waterproof, and so as to be used on all occasions where a power of repelling rain, wet, or moisture may be required - - - - - }	2491	28th April 1801	{ Rudolph Ackermann. Peter James Cuttean.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATERPROOFING, &amp;c.—continued.</b>			
Method of making and manufacturing men's hats and caps, rendering them perfectly waterproof, as also all kinds of leather, cotton, linen, silk, stuffs, pasteboard, and other manufactures and substances, for the purpose of being worked up into shoes, boots, women's hats and bonnets, and other wearing-apparel, and to be used on all occasions when a power of repelling wet or moisture may be required - - - - -	2547	3rd Nov. 1801	{ John Walker. Godfrey Alphey.
Rendering all sorts of woollen, cotton, and linen cloths, canvas, silk, hats, paper, and other manufactures, waterproof - - - - -	2803	2nd April 1802	{ Elizabeth Duke. James Jacks.
Method of manufacturing hats, bonnets, and other useful articles, of paper, and of considering the same waterproof when required.	2785	19th May 1804	George Simmonds.
Improvement in the manufacture of piece-goods composed of cotton, flax, or hemp, or of any mixture of two or more of those articles, by which such goods will resist the rotting action of wet or moisture much better than similar fabrics manufactured by the methods in common use.	2913	8th March 1806	Patrick Whytock.
Method of rendering waterproof beaver and other hats.	3003	29th Jan. 1807	William Hance.
Method of manufacturing waterproof hats, to be made of silk, wool, beaver, or other fur, the brims of which are perfectly waterproof, and will in all weathers and in every climate preserve their original shapes, being stiffened without the use of glue or any other material which would prevent the effect of waterproof mixture [by using a varnish composed of gums] - - -	4439	18th March 1820	{ William Pritchard. Robert Franks.
Rendering leather, linen, flax, sail-cloth, and certain other articles waterproof [with a composition of pipe-clay and oil-varnish] - - - - -	4796	31st May 1823	{ John Mills. Herman William Fairman.
Process and manufacture for rendering the texture of hemp, flax, wool, cotton, silk, and also leather, paper, and other substances, impervious to water and air.	4804	17th June 1823	Charles Mac Intosh.
Preparing and making waterproof cloth and other materials, for the manufacture of hats, bonnets, caps, and wearing-apparel; manufacturing the same therefrom.	5018	14th Oct. 1824	William Philip Weise.
Making or rendering ships' bottoms, vessels, and utensils of different descriptions, and various manufactures and porous or fibrous substances, impervious to air and water; coating and protecting the surfaces of different metallic and other bodies.	5121	15th March 1825	Thomas Hancock.
Rendering boots, shoes, and other articles waterproof.	5442	22nd Dec. 1826	Thomas Morrison.
Manufacture of canvas and other fabrics from substances hitherto unused for that purpose [and making such fabrics to resist water by saturating the threads composing the same with bituminous and gummy material].	5846	15th Sept. 1829	George Harris.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATERPROOFING, &amp;c. —continued.</b>			
Manufacture of certain articles of dress or wearing-apparel, fancy ornaments and figures, and method of rendering certain manufactures and substances in a degree or entirely impervious to air or water, and protecting certain manufactures and substances from being injured by air, water, or moisture.	5970	5th Aug. 1830	Thomas Hancock.
Process or method of manipulation and treatment for the preparation of leather, whereby it becomes less pervious to water, and preserves better its pliability than does leather prepared by the ordinary means.	6609	22nd May 1834	Thomas Edmonds.
Rendering fabrics waterproof - - - -	6824	28th April 1835	William Simpson Potter.
Process or manufacture whereby the texture of cotton and certain other fabrics and materials may be rendered impervious to water.	6934	28th Nov. 1835	James Hellewell.
Waterproof cloth or fabric made either elastic or non-elastic, applicable to various purposes; manufacture of waterproof hats or caps.	6946	7th Dec. 1835	Robert William Sievier.
Process of rendering cloth and other fabrics partially or entirely impervious to air and water, by means of caoutchouc or india-rubber.	7344	18th April 1837	Thomas Hancock.
Rendering fabrics and leather waterproof - -	7664	31st May 1838	Thomas Nicholas Raper.
Rendering wood, cork, leather, woven and felted fabrics, ropes and cordage, stone and plasters or compositions, either more durable, less pervious to water, or less inflammable, as may be required, for various useful purposes.	7731	11th July 1838	John Bethell.
Rendering fabrics and leather waterproof - -	7923	3rd Jan. 1839	Thomas Nicholas Raper.
Rendering fabrics and leather waterproof - -	8158	20th July 1839	Thomas Nicholas Raper.
Rendering fabrics and leather waterproof - -	8191	10th Aug. 1839	Robert Varicas.
Preserving and rendering woollen and other fabrics and leather waterproof.	8301	5th Dec. 1839	John Heaton Hall.
Mortar or cement for building, also for mouldings, castings, statuary, tiles, pottery, imitation of soft and hard rocks, and for other useful purposes [ <i>for waterproofing paper, ropes, &amp;c.</i> ].	8391	22nd Feb. 1840	Thomas Kerr.
Rendering fabrics and leather waterproof - -	8429	16th March 1840	Robert Varicas.
Producing surfaces on leather and fabrics [ <i>waterproofing leather, or leather made into boots, shoes, portmanteaus, and other articles, by means of an india-rubber dressing</i> ].	8441	23rd March 1840	Charles Keene.
Rendering silk, cotton, woollen, linen, and other fabrics waterproof.	8503	12th May 1840	George John Newbery.
Manufacture of waterproof fabric, applicable for covering and packing bodies, buildings, and goods exposed to water and damp [ <i>substitute for leather</i> ].	9189	16th Dec. 1841	John Americus Fanshawe.
Rendering fabrics waterproof - - - -	9340	7th May 1842	Godfrey Wetzlar.
Means of dyeing or staining cotton, woollen, and silk fabrics, and rendering them repellent of water.	9622	31st Jan. 1843	Charles Hancock.
Rendering leather, skins, or hides impervious to wet, more flexible, and more durable.	10,006	11th Jan. 1844	William Wright.
Process whereby cotton fabrics are made repellent of water and mildew, and any unpleasant smell is prevented in such fabrics.	10,094	6th March 1844	Charles Townend.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATERPROOFING, &amp;c.—continued.</b>			
Preparation and manufacture of woven fabrics or tissues applicable to various useful purposes [ <i>waterproof fabrics</i> ].	<a href="#">10,330</a>	26th Sept. 1844	John Berkeley Cotter.
Dissolving lac and shellac, and rendering fabrics waterproof.	<a href="#">10,632</a>	22nd April 1845	Alphonse le Mire de Normandy.
Manufacturing waterproof paper - - - -	<a href="#">10,760</a>	10th July 1845	Antoine Bossy.
Process and machinery for rendering papers and wrappers waterproof.	<a href="#">10,774</a>	21st July 1845	Thomas Robinson Williams.
Manufacture of fabrics which may, if required, be made airproof and waterproof; a part of the materials employed herein, when combined with other matters, being intended to produce coverings for vessels of capacity [ <i>coating fabrics with metal</i> ].	<a href="#">11,055</a>	20th Jan. 1846	William Henry Burke.
Combination of materials as a substitute for waterproof cloth and for other useful purposes.	<a href="#">11,093</a>	17th Feb. 1846	Jacque Kloet.
Manufacture of boots and shoes [ <i>waterproofing</i> ] -	<a href="#">11,217</a>	22nd May 1846	Charles Wright.
Manufacture of driving-bands; partly applicable to the manufacture of other fabrics [ <i>waterproofing by a composition of linseed-oil, soot, &amp;c.</i> ]	<a href="#">11,436</a>	3rd Nov. 1846	Alfred Vincent Newton.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of waterproof cloths, table-covers, and printers' blankets</i> ] - - -	<a href="#">11,455</a>	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Apparatus for supporting human and other bodies when in the water [ <i>by rendering flags, or similar plants, waterproof for such purpose</i> ].	<a href="#">11,802</a>	19th July 1847	Edward Light.
Rendering fabrics waterproof, and making articles from fabrics so rendered waterproof; dissolving india-rubber and other gums.	<a href="#">11,850</a>	2nd Sept. 1847	Thomas Forster.
Application of gutta-percha for waterproofing fabrics.	<a href="#">11,917</a>	21st Oct. 1847	Thomas Forster.
Treating pasteboard and other substances, rendering them compact and impervious to wet, frost, vermin, and other destructive agents.	<a href="#">11,979</a>	25th Nov. 1847	William Hutchison.
Manufacture of boots, shoes, and clogs [ <i>rendering the stiffenings waterproof, by inserting a thin piece of gutta-percha</i> ].	<a href="#">12,296</a>	26th Oct. 1848	James Clark.
Manufacture of airproof and waterproof fabrics, and preparation of caoutchouc and gutta-percha, either alone or in combination with other materials, the same being applicable to articles of wearing-apparel, bands, straps, and other similar useful purposes.	<a href="#">12,591</a>	26th April 1849	William Henry Burke.
Improvements parts of which are applicable to the manufacture of waterproof fabrics and leather.	<a href="#">12,660</a>	14th June 1849	Michael John Haines.
Treating fatty, oleaginous, resinous, bituminous, and cerous bodies; manufacture and application of them and of their components and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [ <i>application of preparations to atmosphere and hydrofuge purposes</i> ] - - - -	<a href="#">13,081</a>	25th May 1850	{ William Radley. Frederick Meyer.
Rendering canvas and other fabrics and leather waterproof.	<a href="#">13,190</a>	23rd July 1850	Henry Constantine Jennings.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATERPROOFING, &amp;c.—continued.</b>			
Manufacture of bonnets and other coverings for the head [ <i>waterproofing by a solution of caoutchouc or india-rubber, or of gutta-percha, or of both combined</i> ] - - - - -	<a href="#">13,524</a>	24th Feb. 1851	{ John Hinks. James Vero.
Manufacture of boots and shoes; machinery and materials to be used therein [ <i>waterproofing by employing thin sheets of gutta-percha</i> ].	<a href="#">13,611</a>	30th April 1851	Philip Webley.
Manufacture of woven and felted fabrics [ <i>waterproofing or coating felted or woven fabrics with caoutchouc, also flannels, hosiery, knitted goods, and yarns</i> ].	<a href="#">13,612</a>	3rd May 1851	William Edward Newton.
Manufacture or production of boots and shoes; materials, machinery, and apparatus connected therewith [ <i>waterproofing materials used in making boots and shoes</i> ].	<a href="#">13,931</a>	27th Jan. 1852	Julian Bernard.
Manufacture or production of boots and shoes; materials, machinery, and apparatus connected therewith [ <i>waterproofing the uppers</i> ].	<a href="#">14,287</a>	10th Sept. 1852	Julian Bernard.
<b>II.—Making Buildings and Ships fireproof; protecting against Fire.</b>			
Securing buildings and ships against accidents from fire.	1037	1st April 1773	David Hartley.
Securing buildings from fire - - - - -	1231	15th Oct. 1779	John Johnson.
Construction or arrangement for buildings, so as to afford security against fire.	3201	7th Feb. 1809	William Congreve.
Securing buildings, towns, dockyards and ships from fire, combining a power for the raising of water to the tops of buildings, and for other general purposes.	3606	31st Oct. 1812	Colonel William Congreve.
Rendering buildings less liable to injury from fire -	5097	19th Feb. 1825	Benjamin Farrow.
Constructing fireproof buildings - - - - -	8563	9th July 1840	Louis Leconte.
Apparatus to be applied to chimneys to prevent their taking fire, and for rendering sweeping of chimneys unnecessary.	9426	23rd July 1842	Eugene de Varroc.
Constructing floors for fireproof buildings - -	9524	25th Nov. 1842	Charles Heard Wild.
<b>III.—Compositions for Waterproofing and Fireproofing.</b>			
New and extraordinary mixture of wax and other ingredients, known by the name of "German balls," for beautifying and preserving any sort of leather, and, being used for couches, will preserve the same much better and longer than any now used, and prevent any wet entering into boots or shoes.	<a href="#">322</a>	— April 1693	George Sylvanus.
Preparation for waterproofing woollen cloths and hats.	<a href="#">788</a>	1st April 1763	Samuel Elmsley.
Waterproof compound; preparing stuffs or cloths made of woollen, linen, cotton, and silk, by the application of the aforesaid composition to render them impenetrable to wet, as well as elastic and durable.	2188	26th July 1797	Henry Johnson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATERPROOFING, &amp;c.—continued.</b>			
Chemical composition; applying the same in the preparation of hides, skins, and leather, silks, taffetas, and linen, also to articles made of skins and leather, thereby colouring and giving a gloss to the same, rendering them waterproof and impenetrable to hot or corroding liquors, at the same time preserving them from decay, and keeping them soft and pliable.	2814	23rd Jan. 1805	Charles Frederick Mollerston.
Chemical preparation for preserving woollen and vegetable substances from mildew, rot, or fermentation, and also rendering cloths and other fabrics impervious to rain - - - - }	3150	11th July 1803	{ James Browell. James Jacks. Thomas Lermite.
Composition for making leather and other articles waterproof.	3984	20th Feb. 1816	William Baynham.
Method or means for preventing leakage from vessels for holding liquids, and for preventing the admission of moisture into packages or vessels intended to be kept dry.	4074	1st Nov. 1816	George Washington Dickinson.
Composition, and its application to render canvas, linen, and cloth durable, pliable, and waterproof.	4255	5th May 1818	Wolf Benjamin.
Mixture or preparation which may be used in preventing the damage arising from accidents by fire [ <i>solution to render timber, clothing, &amp;c. fire-proof</i> ].	4668	16th April 1822	Benjamin Cook.
Liquid and composition for making leather waterproof [ <i>caoutchouc dissolved in spirits with beeswax and gummy matters</i> ].	4815	28th Feb. 1824	Charles Bagenall Fleetwood.
Improvements in the making or rendering ships' bottoms, vessels and utensils of different descriptions and various manufactures, and [porous or fibrous substances, impervious to air and water, and for coating and protecting the surfaces of different metallic and other bodies.	5121	15th March 1825	Thomas Hancock.
Waterproof stiffening for hats - - - -	5604	15th Jan. 1828	Joseph Blades.
Liquid or composition for waterproofing and strengthening leather [ <i>solution of resin, tallow, oil, turpentine, and caoutchouc</i> ].	5662	4th June 1828	Baron Charles Wetterstedt.
Chemical combination or compound for rendering cloth, wood, paper and other substances indestructible by fire, and also preserving them from the ravages of insects.	7570	20th Feb. 1838	Eugene Richard Ladislas de Breza.
Composition for protecting wood from flame - -	7787	30th Aug. 1838	Joseph Davies.
Manufacture and application of leather, and vegetable substances in combination with leather, india-rubber, canvas, silk, cotton-wool, and other fibrous substances, in the manufacture of waterproof articles.	12,466	8th Feb. 1849	Thomas Charles Clarkson.
Treating fatty, oleaginous, resinous, <u>bituminous</u> , and cerous bodies; manufacture and application of them and of their components and subsidiary products, together with the apparatus employed therein, to new and other useful purposes [ <i>manufacture of atmofuge and hydrofuge compounds, to be employed as lacquers, japans, and varnishes</i> ].	13,091	25th May 1850	{ William Radley. Frederick Meyer.
Chemical composition for rendering cotton, linen, silk, and other fabrics impervious to water.	13,431	27th Dec. 1850	Celeste Menotti.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WATERPROOFING, &amp;c.—continued.</b>			
Use and treatment of peat and its products, and other carbonaceous matters; apparatus applicable to such and other chemical purposes [ <i>obtaining greases and resino-adipose wax as a waterproofing composition</i> ].	<a href="#">13,590</a>	15th April 1851	Benson Stones.
Preparation of compounds to be used for rendering waterproof and fireproof woven and textile fabrics, paper, leather, wood, or other materials or substances; machinery employed therein.	<a href="#">13,888</a>	31st Dec. 1851	Robert Beck Froggart.
Composition applicable to the purposes of varnish, to the waterproofing of fabrics, to the manufacture of transparent fabrics, to the fixing of colours, and to other useful purposes.	<a href="#">14,205</a>	6th July 1852	Jules Lemoine.
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<b>WEAPONS OF DEFENCE.—AMMUNITION.</b>			
<b>I.—Armour, Bows, Swords, and Bayonets.</b>			
Making sword-blades, falchions, skeans, and rapier-blades.	5	11th Jan. 1618	Thomas Murray.
Making engines for fixing the bow and pike together; also a quiver for the arrows - - - }	<a href="#">69</a>	12th May 1634	{ William Neade. William Neade, junior.
Making twenty-one several engines and instruments for His Majesty's particular service.	<a href="#">71</a>	24th June 1634	Arnold Rotispen.
Making sword-blades, falchions, skeans, rapier-blades, and blasts serving for rests for muskets, by the help of mills.	<a href="#">97</a>	9th July 1636	Benjamin Stone.
Swords which serve for bayonets; also breastplates, fireproof and much lighter than ordinary.	<a href="#">434</a>	12th Aug. 1721	Isaac de la Chaumette.
Preparing steel and ornamenting the same in sword-hilts and other steel-work.	1621	17th Sept. 1787	John Rose.
Manufacture of long-bows, for giving greater elasticity to the same, and for ascertaining the strength thereof.	1639	5th Feb. 1788	Thomas Waring.
Improvements to be applied to any kind of fire-arms or defensive instruments [ <i>arrows or harpoons to be discharged from fire-arms, for spearing fish; method of combining swords with pistols and guns</i> ].	2744	3rd Dec. 1803	James Sturman Searles.
Making pikes - - - - -	2750	7th Feb. 1804	Edward Thomason.
Shield or protection for the human body against sword, bayonet, or pike; also proof against musket-balls - - - - - }	2763	18th May 1804	{ John Peter Barthelemey. James Shoubridge.
Improvements applicable to shot-belts and powder-flasks, and to fire-arms of all descriptions [ <i>rest for guns</i> ].	2865	3rd July 1805	Alexander Wilson.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Armour-waistcoat, as a defence against the bayonet, sword, pike, or any pointed instrument, and in many instances may prevent the infliction of a wound from a musket-ball.	2885	30th Oct. 1805	Richard Kentish.
Fixing bayonets in fire-arms - - - - -	3155	30th July 1808	George Richards.
Pike or halbert with couteaus - - - - -	3400	4th March 1811	William Turner.
Bayonets - - - - -	4031	25th May 1816	Francis Richardson.
Manufacture of sword-hilts - - - - -	4444	11th April 1820	{ William Hall. William Rostill.
Fire-arms and certain other weapons of defence [ <i>bayonets, and affixing them to muskets; rendering swords more effective</i> ].	5805	27th Feb. 1830	Charles Random Baron de Berenger.
Guns, muskets, and other fire-arms; machinery for making the same;—also applicable to other purposes [ <i>bayonets, and affixing them to muskets</i> ].	6137	13th July 1831	Augustus Demondion.
Manufacture of fire-arms and artillery [ <i>method of carbonating and hardening the sockets and necks of bayonets</i> ].	6872	7th Aug. 1835	William Mason.
Fire-arms, and balls to be used therewith [ <i>mode of using ramrods as substitutes for bayonets</i> ].	7980	23rd Feb. 1839	Charles Louis Stanislas Baron Heurteloupe.
Treating and preparing whalebone, and the fins and similar parts of whales; rendering them fit for commercial and other purposes [ <i>bows</i> ].	8885	17th March 1841	Lawrence Kortright.
Manufacture of bayonets - - - - -	11,173	21st April 1846	Peter Bishop.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of sword-handles</i> ] - }	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Bayonets [ <i>and fixing them to fire-arms</i> ] - - - -	12,613	15th May 1849	Louis Alfred de Chatauvillard.
Manufacture of bayonets, swords, and other cutting instruments.	13,991	27th Feb. 1852	Charles Reeves, junior.
<b>II.—Fire-arms and Ordnance, including Barrels and Stocks.</b>			
Making guns - - - - -	44	13th July 1628	Arnold Rotispen.
Casting ordnance or other like works, with a fire of sea-coal, pit-coal, or stone-coal, without charking or mixing the same with charcoal, or by use of any other fuel except wood, or fuel made from wood.	91	22nd April 1636	Sir Phillibert Vernatt, Knt.
Making light ordnance - - - - -	136	24th March 1662	James Wemis.
Guns and pistols, with several devices for the speedier and more effectual discharge.	143	3rd March 1664	Abraham Hill.
Making muskets, carbines, and pistols, so as to discharge several shots in a single barrel and lock with one priming.	216	16th Feb. 1682	Charles Cardiffe.
Mould for casting ordnance - - - - -	274	15th Sept. 1691	Captain Thomas Philips.
Making guns and other utensils, from iron ore, stone, flags, cinders, old iron, and other materials, after being smelted.	291	29th Feb. 1692	Thomas Addison.
Portable gun or machine called a "defence" - -	418	15th May 1718	James Puckle.
Cannon which being charged by the breech through the barrel, is cooled by charging and cleaned by firing; fuzils and pistols of like make; also a carbine that may be made from two cases of pistols and charged without a rammer.	434	12th Aug. 1721	Isaac de la Chaumette.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Making cannon or great guns of iron or brass -	503	5th Oct. 1728	Henry Browne.
Piece of ordnance or cannon to be charged or discharged eight times in a minute.	577	4th June 1741	Gilbert Hadley.
Casting guns or cannon - - - - -	723	21st April 1758	Isaac Wilkinson.
Construction of guns and all other fire-arms, capable of carrying the shot farther and loading and priming much quicker [ <i>breeches for small arms</i> ] - - - - -	1003	4th Feb. 1772	{ Thomas Wright. Charles Byrne.
Casting and boring iron guns and cannon - -	1063	27th Jan. 1774	John Wilkinson.
Firelock constructed for portability and safety, with the lock so placed as not to obstruct the sight, having the prime secured against the effects of rain, and so contrived that the barrel can be taken from the lock for the purpose of cleaning the same; is also provided with a lever that sets the lock in motion, but being removed disengages the action of the gun; the said firelock may be used either to a gun, pistol, cannon, or other fire-arm, with one, two, three, or more barrels - - - - -	1095	8th April 1775	{ Henry Noek. William Jover. John Green.
Improvements upon fire-arms, which render such fire-arms more beneficial, by being made to load with more expedition, ease, and safety, to fire with greater certainty, and possess other advantages [ <i>rifling the bores of small arms</i> ].	1139	2nd Dec. 1776	Patrick Ferguson.
Cannon and other guns, the touch-hole and cascabel of the cannon and guns being so constructed that locks may be fitted thereto with the greatest ease and better security for the breeching.	1218	10th April 1779	Richard Blight.
Pistol with a bayonet - - - - -	1284	9th March 1781	John Waters.
Making cannon or any other piece of ordnance made of metal, so contrived as to give a more certain direction to the mark intended than any other that has been hitherto in use [ <i>rifling the bore</i> ].	1694	30th July 1789	John Wilkinson.
Planing wood, whereby superior accuracy is attained and labour saved [ <i>for gun-stocks</i> ].	1838	26th Nov. 1791	Samuel Bentham.
Construction of fire-arms for the better protection of the powder in bad weather.	1897	5th July 1792	James Willson.
Means of working wood, metal, and other materials [ <i>making gun-stocks and gun-barrels</i> ].	1951	23rd April 1793	Samuel Bentham.
Construction of guns and other fire-arms - -	2042	28th Feb. 1795	Richard Webb.
Construction of guns and pistols of every description [ <i>breeches for small arms</i> ].	2178	12th April 1797	John Manton.
Manufacturing bars of a mixture of iron and steel for double-barrel gun-barrels.	2252	23rd July 1798	William Dupe.
Constructing and using ordnance both for sea and land service [ <i>mortars</i> ].	2428	24th July 1800	Anthony Cesari De Poggi.
Rifling the bores or calibres of cannon and of musket, carbine, gun, and pistol barrels.	2436	2nd Aug. 1800	Thomas Gill.
Construction and application of a gun by removing the touch-hole from the side to the centre of the butt-end of the barrel [ <i>horse swivel-gun; hammering metal for gun-barrels; breeches for small arms and cannon</i> ].	2466	23rd Jan. 1801	Robert Vazie.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Machine for producing straight, smooth, and parallel surfaces on wood and other materials [ <i>for gun-stocks</i> ].	2652	30th Oct. 1802	Joseph Bramah.
Fire-arms [ <i>pistol to be used for firing off cannon ; stocks for pistols</i> ].	2692	23rd March 1803	Durs Egg.
Improvements applicable to any kind of fire-arms or defensive instruments [ <i>method of combining swords with pistols and guns</i> ].	2744	3rd Dec. 1803	James Sturman Searles.
Improvements applicable to fire-arms of all descriptions [ <i>breeches for small arms</i> ].	2865	3rd July 1805	Alexander Wilson.
Making barrels for fire-arms - - - - -	2911	20th Feb. 1806	John Jones, junior.
Double-barrelled guns [ <i>elevated top piece or top rib</i> ].	2966	15th Sept. 1806	Joseph Manton.
Fire-arms and guns - - - - -	2991	4th Dec. 1806	James Frederick Matthey.
Method of discharging or giving fire to artillery and all other fire-arms [ <i>needle-gun</i> ].	3032	11th April 1807	Alexander John Forsyth.
Making barrels for fowling-pieces, muskets, pistols, and other similar fire-arms, and ramrods for the same [ <i>manufacture of cannon</i> ].	3122	26th March 1808	Benjamin Cook.
Gun-carriage [ <i>constructing cannon</i> ] - - -	3134	24th May 1808	William Congreve.
Single and double cannon, carronade, ordnance, muskets, and all other kinds of fire-arms [ <i>for discharging chain shot</i> ].	3155	30th July 1808	George Richards.
Transcendant ordnance or cannon for marine, fort, or field service.	3196	26th Jan. 1809	Michael Logan.
Guns, pistols, and other fire-arms; applicable to cannon and other larger guns.	3233	4th May 1809	Thomas Noon.
Manufacture of barrels of all descriptions of fire-arms and artillery [ <i>artillery or cannon; welding by hammering or rolling</i> ] - - - - -	3469	26th July 1811	{ Henry James. John Jones.
Guns and pistols [ <i>breeches for small arms</i> ] - -	3558	30th April 1812	Joseph Manton.
Machine for turning and levelling various articles made of iron, preparatory to welding and grinding* [ <i>closing skelps preparatory to making gun-barrels</i> ].	3590	3rd Aug. 1812	Henry Osborn.
Construction of fire-arms and locks; apparatus for trying and loading them [ <i>stocks for guns and pistols</i> ].	3599	25th Sept. 1812	Durs Egg.
Method of welding and making various kinds of cylinders of iron and steel [ <i>welding gun-barrels</i> ].	3617	28th Nov. 1812	Henry Osborn.
Method of making tools for tapering cylinders of different descriptions made of iron, steel, metal, or mixture of metals; and also for tapering bars of iron, steel, metal, or mixture of metals [ <i>for rolling gun-barrels</i> ].	3740	15th Oct. 1813	Henry Osborn.
Rifled bore for fire-arms and ordnance - - -	3756	23rd Nov. 1813	James Bodmer.
Fire-arms - - - - -	3784	9th March 1814	James Thomson.
Turning rolls and rolling gun and pistol barrels previous to welding.	3813	7th June 1814	George Heywood.
Construction of guns, pistols, and other fire-arms -	3828	4th Aug. 1814	Thomas Sykes.
Construction and use of fire-arms - - - - -	3833	4th Aug. 1814	Jean Samuel Pauly.
Construction and use of parts of fire-arms [ <i>breeches for small arms</i> ].	3885	29th Feb. 1816	Joseph Manton.
Construction and use of fire-arms - - - - -	4026	14th May 1816	Jean Samuel Pauly.
Barrels of fire-arms - - - - -	4031	25th May 1816	Francis Richardson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Method of producing cylinders of various descriptions [ <i>rolling gun-barrels</i> ].	4105	1st March 1817	William Henry Osborn.
Construction and use of fire-arms - - - -	4107	11th March 1817	Urbanus Sartoris.
Construction of certain parts of fire-arms - -	4285	3rd Aug. 1818	Joseph Manton.
Fire-arms; also applicable to cannon [ <i>constructed to fire several times with one loading</i> ].	4315	24th Nov. 1818	Elisha Haydon Collier.
Construction and use of fire-arms - - - -	4386	23rd Jan. 1819	Urbanus Sartoris.
Gun-barrels - - - - -	4491	20th July 1820	William Dell.
Construction of guns and fire-arms on the self-priming and detonating principle.	4727	26th Nov. 1822	Joseph Egg.
Construction of locks for the discharge of guns and other fire-arms upon the detonating principle [ <i>percussion double-barrelled fire-arms</i> ].	4823	29th July 1823	John Jackson.
Percussion gun-locks;—applicable to various descriptions of fire-arms [ <i>walking-stick guns</i> ].	4861	13th Nov. 1823	John Day.
Making or constructing locks for guns, pistols, and other fire-arms [ <i>walking-stick guns</i> ].	4960	20th May 1824	James Cook.
Method of applying percussion to the purpose of igniting charges in fire-arms generally; rendering the percussion principle more generally applicable to common pistols, blunderbuses and muskets as well as to all sorts of sporting and other guns [ <i>percussion double-barrelled fire-arms; breeches for small arms</i> ].	4990	27th July 1824	Charles Random Baron De Berenger.
Methods applicable to fowling-pieces or other fire-arms, by which method all accidental discharge of said fowling-pieces or other fire-arms will be completely prevented [ <i>percussion double-barrelled fire-arms</i> ].	5026	4th Nov. 1824	Rev. John Somerville.
Improvements applicable to guns and other fire-arms [ <i>breeches for small arms</i> ].	5055	18th Dec. 1824	Samson Davis.
Fire-arms [ <i>several charges in one barrel, discharged from separate touch-holes</i> ].	5099	19th Feb. 1825	Jacob Mould.
Fire-arms - - - - -	5106	26th Feb. 1825	Joseph Manton.
Artillery, musketry, and other fire-arms [ <i>constructed to obtain repeated discharges without reloading</i> ].	5155	23rd April 1825	Augustin Louis Hunout.
Fowling-pieces and other fire-arms - - - -	5242	15th Aug. 1825	Charles Downing.
Gun-barrel [ <i>made oval or elliptical in the bore</i> ] -	5305	3rd Dec. 1825	John Beever.
Fire-arms - - - - -	5416	18th Oct. 1826	William Mills.
Fire-arms [ <i>needle-guns; introducing the priming and igniting the powder at the breech</i> ].	5421	7th Nov. 1826	Benjamin Newmarch.
Method of making and forming hollow cylinders, guns, ordnance, retorts, and other articles in wrought-iron, in steel, or composed of both those metals [ <i>hammering or forging breeches for cannon</i> ].	5553	11th Oct. 1827	Joshua Horton.
Projectile [ <i>a walking-stick gun</i> ] - - - -	5726	8th Dec. 1828	Isaac Dickson.
Construction of cannon - - - - -	5839	9th Sept. 1829	John Tucker.
Fire-arms and certain other weapons of defence -	5905	27th Feb. 1830	Charles Random Baron De Berenger.
Construction of guns and fire-arms - - - -	6046	6th Dec. 1830	{ John George Lacy. Samson Davis.
Guns, muskets, and other fire-arms; machinery for making the same;—applicable to other purposes [ <i>grinding parts of barrels</i> ].	6137	13th July 1831	Augustus Demondion.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Fire-arms [ <i>percussion</i> ] - - - - -	6139	15th July 1831	John De Burgh Marquis of Clanricarde.
Fire-arms of different descriptions [ <i>breeches for small arms; needle-gun</i> ] - - - - -	6166	24th Sept. 1831	{ William Bingham. William Dupe.
Fire-arms [ <i>needle-gun</i> ] - - - - -	6196	15th Dec. 1831	Abraham Adolp Moser.
Ordnance [ <i>constructing double cannon</i> ] - - -	6491	19th Oct. 1833	Thomas Augustus Gregory Gillyon.
Guns and other small arms [ <i>stocks for guns and pistols</i> ].	6554	8th Feb. 1834	William Stedman Gillett.
Fire-arms [ <i>breeches for small arms</i> ] - - -	6572	13th March 1834	John Augustus Manton.
Certain parts of certain descriptions of fire-arms -	6611	22nd May 1834	Charles Louis Stanislas Baron Heurteloup.
Fire-arms of various descriptions [ <i>method of constructing and rifling the bores of small arms; gun-stocks; applying props to pistols, to serve as guards</i> ].	6675	6th Sept. 1834	Henry Shrapnel.
Machinery for cutting and shaping wood and other materials [ <i>for gun-stocks</i> ].	6755	29th Jan. 1835	Isaac Dodds.
Construction of guns or muskets, and other such fire-arms.	6825	28th April 1835	Rev. John Somerville.
Construction of fire-arms;—part or parts of which improvements may be applied in making and using common and other ordnance [ <i>boring cannons and gun-barrels</i> ].	6826	30th April 1835	Isaac Dodds.
Fire-arms - - - - -	6829	9th May 1835	Joseph Egg.
Manufacture of fire-arms and artillery - - -	6872	7th Aug. 1835	William Mason.
Fire-arms - - - - -	6909	22nd Oct. 1835	Samuel Colt.
Ordnance and other fire-arms - - - - -	7286	19th Jan. 1837	Moses Poole.
Gunnery, and gun and other carriages; means of connecting the same [ <i>combining several cannons together in the form of a star, and mounting them on one carriage</i> ].	7472	14th Nov. 1837	William Coles.
Fire-arms [ <i>gun-stocks</i> ] - - - - -	7610	10th April 1838	Joseph Rock Cooper.
Fowling-pieces and other fire-arms - - -	7965	11th Feb. 1839	George Henry Manton.
Fire-arms - - - - -	7980	23rd Feb. 1839	Charles Louis Stanislas Baron Heurteloup.
Guns, pistols, and other denominations of fire-arms } [ <i>breeches for small arms; needle-gun</i> ] - - - }	8024	9th April 1839	{ George Stocker. Joseph Bentley.
Fire-arms - - - - -	8119	22nd June 1839	Henry Wilkinson.
Fire-arms [ <i>revolving and other pistols</i> ] - - -	8347	21st Jan. 1840	Joseph Rock Cooper.
Fire-arms [ <i>needle-gun</i> ] - - - - -	8513	20th May 1840	William Bush.
Fire-arms, and apparatus to be used therewith -	8573	18th July 1840	Moses Poole.
Fire-arms - - - - -	9119	14th Oct. 1841	Moses Poole.
Fire-arms [ <i>needle-gun</i> ] - - - - -	9129	2nd Nov. 1841	{ William Golden. John Hanson.
Fire-arms - - - - -	9258	15th Feb. 1842	Alexander Rousseau.
Fire-arms - - - - -	9801	24th June 1843	William Needham.
Manufacturing ordnance [ <i>welding, by hammering</i> ] -	9947	18th Nov. 1843	James Roose.
Manufacture of cannon [ <i>breeches for cannon</i> ] - -	9961	25th Nov. 1843	John Frith.
Cannon of wrought iron or steel, or both combined; machinery used in the making; method of making [ <i>also mortars; welding by means of the hydrostatic press</i> ].	10,013	16th Jan. 1844	Thomas Aspinwall.
Manufacture of barrels for fire-arms - - -	10,030	30th Jan. 1844	William Lucas Sargant.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Fire-arms - - - - -	<a href="#">10,280</a>	30th July 1844	Joseph Bentley.
Artillery guns, pistols, and other fire-arms; apparatus to be used therewith [ <i>needle-gun; revolving and double-barrelled central fire pistols</i> ].	<a href="#">10,667</a>	14th May 1845	Charles James Smith.
Manufacture of gun-barrels and other tubes [ <i>welding, by hammering</i> ].	<a href="#">10,696</a>	3rd June 1845	Cornelius Whitehouse.
Fire-arms and ordnance - - - - -	<a href="#">10,718</a>	10th June 1845	Joseph Washington Tyson.
Guns - - - - -	<a href="#">10,849</a>	2nd Oct. 1845	John Hale.
Fire-arms - - - - -	<a href="#">11,657</a>	15th April 1847	John Mollett.
Methods of producing power for the discharge of weapons and missiles, and other purposes [ <i>breeches for cannon and small arms</i> ].	<a href="#">11,864</a>	9th Sept. 1847	Connor William O'Leary.
Construction of fire-arms - - - - -	<a href="#">11,994</a>	10th Dec. 1847	Stephen Taylor.
Fire-arms - - - - -	<a href="#">12,432</a>	20th Jan. 1849	Henry Needham.
Fire-arms and ordnance [ <i>needle-gun</i> ] - - - - -	<a href="#">12,613</a>	15th May 1849	Louis Alfred De Chatauvillard.
Fire-arms [ <i>needle-gun</i> ] - - - - -	<a href="#">12,646</a>	7th June 1849	William Henry Ritchie.
Fire-arms - - - - -	<a href="#">12,666</a>	20th June 1849	Samuel Colt.
Air-guns - - - - -	<a href="#">12,728</a>	1st Aug. 1849	John Shaw.
Ornamenting iron and other metals for the manufacture of gun-barrels, &c.	<a href="#">12,732</a>	1st Aug. 1849	Benjamin Aingworth.
Fire-arms - - - - -	<a href="#">12,781</a>	20th Sept. 1849	Joseph Rock Cooper.
Construction of guns and cannons [ <i>needle-gun</i> ] -	<a href="#">12,920</a>	11th Jan. 1850	Matthew Urlwin Sears.
Manufacture of fire-arms and cannon and percussion tubes [ <i>boring and rifling</i> ].	<a href="#">13,161</a>	3rd July 1850	Charles William Lancaster.
Muskets, cannon, and other fire-arms [ <i>needle-gun</i> ] -	<a href="#">13,215</a>	6th Aug. 1850	{ Alexander Melville. Edward Callow.
Manufacturing twisted gun and pistol barrels [ <i>welding and finishing by hammering</i> ].	<a href="#">13,299</a>	24th Oct. 1850	Aaron Rose.
Manufacture of fire-arms and cannon [ <i>boring and rifling</i> ].	<a href="#">13,454</a>	16th Jan. 1851	Charles William Lancaster.
Rifles and other fire-arms [ <i>rifling the bores of small arms</i> ].	<a href="#">13,527</a>	24th Feb. 1851	Robert Adams.
Fire-arms - - - - -	<a href="#">13,823</a>	22nd Nov. 1851	Samuel Colt.
Fire-arms; instruments and apparatus connected therewith [ <i>machinery for rifling the bores of small arms</i> ].	<a href="#">13,934</a>	29th Jan. 1852	François Jules Manceaux.
Fire-arms [ <i>needle-gun</i> ] - - - - -	<a href="#">13,994</a>	3rd March 1852	George Leopold Ludwig Kufahl.
Fire-arms and means used for discharging the same [ <i>making or lining with steel the muzzles of rifled barrels</i> ].	<a href="#">14,027</a>	20th March 1852	William Westley Richards.
Ordnance and fire-arms - - - - -	<a href="#">14,041</a>	24th March 1852	John Macintosh.
Fire-arms - - - - -	<a href="#">14,052</a>	31st March 1852	Moses Poole.
Fire-arms and projectiles [ <i>breeches for small arms and percussion guns</i> ].	<a href="#">14,058</a>	6th April 1852	John Walter De Longueville Giffard.
Fire-arms [ <i>pistols of peculiar form</i> ] - - - - -	<a href="#">14,066</a>	17th April 1852	Henri Gustave Delvigne.
Fire-arms and ordnance; projectiles to be used with such or the like weapons; machinery or apparatus for the manufacture of part or parts of such fire-arms, ordnance and projectiles [ <i>breech-loading fire-arms and cannon; applying rifled tubes to plain barrels; rifling machine; a polishing, leading and draughting machine</i> ] - - - - -	<a href="#">14,087</a>	24th April 1852	{ William Church. Samuel Aspinwall Goddard. Edward Middleton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Manufacture of ordnance - - - - -	<a href="#">14,095</a>	29th April 1852	{ John Lintorn Arabin Simmons. Thomas Walker.
Fire-arms [ <i>needle-gun</i> ] - - - - -	<a href="#">14,227</a>	20th July 1852	Joseph William Schlesinger.
Fire-arms [ <i>breeches for small arms; fixing and removing the same</i> ].	<a href="#">14,285</a>	19th Aug. 1852	Thomas Hunt.
Ordnance and fire-arms [ <i>rifling the bores of cannon and small arms</i> ] - - - - -	<a href="#">14,271</a>	23rd Aug. 1852	{ Henry Needham Scrope Shrapnel.
Construction of fire-arms - - - - -	<a href="#">14,289</a>	10th Sept. 1852	Stephen Taylor.
<b>III.—Gun-carriages.</b>			
Chariot of artillery, musket proof, holding two small field-pieces and two hand-mortars - - }	<b>318</b>	5th March 1693	{ James Austin. Francis Ball.
Artillery carriages, waggons, and carts - - -	<a href="#">364</a>	21st June 1699	Edmund Heming.
Making gun-carriages of cast iron, to be worked by two men instead of eight as heretofore.	<a href="#">683</a>	30th May 1753	Louis Florent Delannoy de Villers.
Gun-carriages of cast iron - - - - -	<a href="#">785</a>	5th Aug. 1761	Stephen Remnant.
Construction of gun-carriages - - - - -	<b>1218</b>	10th April 1779	Richard Blight.
Making wheeled carriages for field-pieces with boxes and axletrees whereby the greater part of the friction attending boxes and axletrees is taken off, thus rendering the carriages lighter and more easy for work and draught; they also do not require grease.	<b>1514</b>	9th Dec. 1785	John Shankster.
Carriage for cannon - - - - -	<b>2151</b>	8th Dec. 1796	John Gover.
Gun-carriage - - - - -	<b>2224</b>	23rd March 1798	Joseph Haycraft.
Constructing and using ordnance [ <i>constructing gun-carriages</i> ].	<b>2428</b>	24th July 1800	Anthony Cesari De Poggi.
Construction of a carriage for all sorts of cannon -	<b>2803</b>	19th Dec. 1804	John Gover.
System of marine, fort, and field artillery [ <i>gun-carriages; mounting, elevating, or depressing and working cannon</i> ].	<b>2917</b>	13th March 1806	Michael Logan.
Making gun and carronade carriages - - -	<b>3005</b>	29th Jan. 1807	Richard Friend.
Guns and carronade-carriages - - - - -	<b>3028</b>	8th April 1807	Richard Francis Hawkins.
Gun-carriage for land or sea service [ <i>mounting the same</i> ].	<b>3134</b>	24th May 1808	William Congreve.
Gun and carronade carriages - - - - -	<b>3565</b>	11th May 1812	Colonel William Congreve
Mounting cannons or guns for sea or other service -	<b>5511</b>	26th June 1827	James Marshall.
Carriages for ordnance - - - - -	<b>6491</b>	19th Oct. 1833	Thomas Augustus Gregory Gillyon.
Fire-arms of various descriptions [ <i>rests for guns</i> ] -	<b>6875</b>	6th Sept. 1834	Henry Shrapnel.
Gun and other carriages, and means of connecting the same.	<b>7472</b>	14th Nov. 1837	William Coles.
Ordnance-carriages; apparatus for governing the recoil, and moving the piece backwards and forwards.	<a href="#">10,728</a>	23rd June 1845	Thomas Aspinwall.
Gun-carriages - - - - -	<a href="#">12,559</a>	3rd April 1849	Alfred Woollett.
Muskets, cannon, and other fire-arms [ <i>carriages, and mounting cannon</i> ] - - - - -	<a href="#">13,215</a>	6th Aug. 1850	{ Alexander Melville. Edward Callow.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Gun-carriages - - - - -	<a href="#">13,403</a>	12th Dec. 1850	Thomas Hoskins Howells.
Construction and manufacture of carriages and traversing apparatus for manœuvring ordnance - }	<a href="#">14,095</a>	29th April 1852	{ John Lintorn Arabin Simmons. Thomas Walker.
<b>IV.—Loading, Priming, and Discharging, including Locks, Sights, and Ramrods.</b>			
Making guns or pistols answer fire to the tenth part of a minute, with a flask contrived for the purpose.	<a href="#">131</a>	8th Feb. 1661	The Right Honourable Edward Marquis of Worcester.
Portable gun or machine called a "defence" [ <i>loading small arms at the breech</i> ].	<a href="#">418</a>	15th May 1718	James Puckle.
Lock for a fusee, and means of firing the same horizontally.	<a href="#">434</a>	12th Aug. 1721	Isaac de la Chaumette.
Ordinance or cannon, so contrived as to be charged and discharged eight times in a minute [ <i>loading cannons at the breech</i> ].	<a href="#">577</a>	4th June 1771	Gilbert Hadley.
Construction of guns and all other fire-arms, making them capable of carrying the shot further, and loading and priming much quicker [ <i>loading small arms at the breech; flint locks</i> ] - - - - }	1003	4th Feb. 1772	{ Thomas Wright. Charles Byrne.
Fire-lock, constructed for portability and safety, with the lock so concealed as not to obstruct the sight, having the prime secured against the effects of rain, and so contrived that the barrels can be taken from the lock for the purpose of cleaning the same; is also provided with a lever that sets the lock in motion, but, being removed, disengages the action of the gun; the said fire-lock may be used either to a gun, pistol, cannon, or other fire-arm, with one, two, three, or more barrels [ <i>flint lock</i> ] - - - - }	1095	8th April 1775	{ Henry Nock. William Jover. John Green.
Improvements upon fire-arms, rendering them more beneficial by being made to load with more expedition, ease, and safety, and fire with greater certainty, and possess various other advantages [ <i>loading cannons and small arms at the breech; sights</i> ].	1139	2nd Dec. 1776	Patrick Ferguson.
Cannon and other guns, the touch-hole and cascabel of the cannon and guns being so constructed that locks may be fitted thereto with the greatest ease and better security for the breeching [ <i>fitting flint locks for cannon</i> ].	1218	10th April 1779	Richard Blight.
Spiral wedge for elevating, pointing, and lowering cannon and all other pieces of ordnance.	1233	7th Sept. 1779	Christopher Berger.
Loading guns or fire-arms with two or more charges of gunpowder and shot or balls, and discharging the same successively.	1270	5th Dec. <a href="#">1780</a>	John Aitken.
Breeching applicable to all kind of guns and other fire-arms.	1598	25th April <a href="#">1787</a>	Henry Nock.
Elastic sponge for spunging great guns and other fire-arms, and not liable to damage by fire or water.	1668	26th Aug. 1788	Henry Cook.
Locks for double-barrel guns and pistols [ <i>flint</i> ] -	1707	6th Nov. 1789	James Templeman.
Gun triggers [ <i>for flint locks</i> ] - - - -	1837	26th Nov. 1791	James Sturman Searles.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Hammer for locks of fire-arms; breech for single and double barrelled guns and pistols [ <i>for flint locks</i> ].	1865	18th April 1792	Joseph Manton.
Triggers for double and single barrelled guns and pistols [ <i>for flint locks</i> ].	1893	5th July 1792	Joseph Manton.
Fire-arms [ <i>flint locks</i> ] - - - - -	1897	5th July 1792	James Willson.
Lock, instrument or machine with one trigger or bolt, whereby both locks affixed to fire-arms with double barrels may be fired without a side motion or other inconvenience [ <i>flint</i> ].	1976	4th Feb. 1794	Thomas Sykes.
Gun-lock for muskets, pistols, and other fire-arms -	2041	28th Feb. 1795	George Bolton.
Guns and other fire-arms [ <i>flint locks</i> ] - - -	2042	28th Feb. 1795	Richard Webb.
Lock for guns or fire-arms - - - - -	2072	22nd Oct. 1795	Jonathan Grove.
Screwing and fastening hammer-springs and sear-springs to gun-locks and pistol-locks [ <i>also flint lock</i> ].	2173	14th March 1797	William Siddon.
Construction of guns and pistols of every description [ <i>flint locks; triggers for single and double barrelled fire-arms</i> ].	2178	12th April 1797	John Manton.
Mechanism of the cocks of gun-locks, applicable to all kinds of fire-arms [ <i>flint</i> ].	2380	28th Nov. 1799	Edward Thomason.
Constructing and using ordnance [ <i>working and loading cannon; beds and tubes for firing mortars</i> ].	2428	24th July 1800	Anthony Cesari de Poggi.
Waterproof pan and hammer for gun and pistol locks; also a breech for gun and pistol barrels [ <i>flint</i> ].	2454	9th Dec. 1800	John Prosser.
Construction and application of a gun by means of removing the touch-hole from the side to the centre of the butt-end of the barrel, and forming therefrom a cylindrical communication [ <i>flint locks</i> ].	2468	23rd Jan. 1800	Robert Vazie.
Breech and lock for single and double barrel guns, pistols, and other fire-arms [ <i>flint</i> ].	2566	19th Dec. 1800	Charles Grierson.
Hammer for guns, pistols, and other fire-arms, which contains the prime, and preserves the same from damp [ <i>for flint locks</i> ].	2573	16th Jan. 1802	Joseph Hall.
Improvements upon fire-arms [ <i>loading small arms at the breech; flint locks; ramrods; sights</i> ].	2692	23rd March 1803	Durs Egg.
Lock to a musket, fusée, carbine, fowling-piece, or pistol [ <i>flint lock; priming flint locks</i> ].	2709	10th June 1803	John Randall Peckham.
Hammer upon a new construction for the locks of all kinds of fowling-pieces and small-arms [ <i>flint locks; priming flint locks</i> ].	2732	6th July 1803	Joseph Manton.
Improvements to be applied to any kind of fire-arms or defensive instruments [ <i>flint locks</i> ].	2744	3rd Dec. 1803	James Sturman Searles.
Royal York gun-lock, other gun-locks, and locks of all sorts of fire-arms [ <i>flint</i> ].	2825	28th Feb. 1805	George Dodd.
Improvements applicable to fire-arms [ <i>flint locks</i> ] -	2865	3rd July 1805	Alexander Wilson.
System of marine, fort, and field artillery - -	2917	13th March 1806	Michael Logan.
Locks for muskets, pistols, fowling-pieces, carriage-guns, and every species of fire-arms [ <i>flint</i> ].	2920	21st March 1806	Francis Place.
Double-barrelled guns [ <i>sights</i> ] - - - - -	2966	15th Sept. 1806	Joseph Manton.
Fire-arms and guns of all descriptions [ <i>flint locks; priming flint locks</i> ].	2991	4th Dec. 1806	James Frederick Matthey.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Method of discharging or giving fire to artillery and all other fire-arms, mines, chambers, cavities, and places in which gunpowder or other combustible matter is or may be put for the purpose of explosion [ <i>by compositions which explode by percussion; percussion-lock</i> ].	3032	11th April 1807	Alexander John Forsyth.
Single and double cannon, cannonades or ordnance, muskets, and all other kind of fire-arms, and charging or loading the same [ <i>flint locks; triggers;—loading at the breech</i> ].	3155	30th July 1808	George Richards.
Guns, pistols, and other similar fire-arms applicable to cannon and other large guns [ <i>flint locks for cannon and small arms</i> ].	3233	4th May 1809	Thomas Noon.
Making skelps for fire-arms [ <i>barrels of fire-arms</i> ] -	3267	28th Sept. 1809	John Jones.
Lock for guns and pistols [ <i>flint lock; priming flint locks and protecting same from wet</i> ].	3286	11th Dec. 1809	John Manton.
Manufacturing gun-skelps [ <i>rolling skelps for gun-barrels</i> ].	3437	24th April 1811	John Bradley.
Manufacturing gun-skelps - - - - -	3456	11th June 1811	William Piper.
Guns and pistols [ <i>flint locks; protecting the priming of fire-arms from wet</i> ].	3558	30th April 1812	Joseph Manton.
Gun and pistol lock [ <i>flint</i> ] - - - - -	3588	28th July 1812	William Smith.
Construction of locks for fire-arms; apparatus for loading and trying them [ <i>flint locks</i> ].	3599	25th Sept. 1812	Durs Egg.
Pan, touch-hole, and pan-cover of a gun-lock [ <i>flint lock; protecting the priming from wet</i> ].	3722	19th July 1813	Robert Pretymen.
Loading fire-arms, cannons, and ordnance with a rifled bore at the breech; also a touch-hole and moveable sight for fire-arms and ordnance.	3755	23rd Nov. 1813	James Bodmer.
Construction of fire-arms; locks for the same [ <i>flint locks; priming and protecting same from wet, and loading at the breech</i> ].	3784	9th March 1814	James Thomson.
Locks and breeches of fire-arms, by rendering the pans of locks and the communication between the priming and loading of fire-arms waterproof [ <i>flint</i> ].	3794	23rd March 1814	Emanuel Heaton.
Construction of guns, pistols, and other fire-arms; implements used for loading them [ <i>flint locks; triggers for single and double barrelled fire-arms</i> ].	3828	4th Aug. 1814	Thomas Sykes.
Construction and use of fire-arms [ <i>loading cannons and small arms at the breech; discharging by compressed air</i> ].	3833	4th Aug. 1814	Jean Samuel Pauly.
Construction of pans and hammers to locks of fowling-pieces and fire-arms [ <i>flints</i> ].	3942	21st July 1815	John Manton.
Construction and use of certain parts of fire-arms [ <i>percussion priming; discharging by percussion</i> ].	3985	29th Feb. 1816	Joseph Manton.
Construction and use of fire-arms [ <i>loading cannons and small-arms at the breech; discharging by compressed air</i> ].	4028	14th May 1816	Jean Samuel Pauly.
Locks and barrels of fire-arms [ <i>flint locks; priming flint locks</i> ].	4031	25th May 1816	Francis Richardson.
Pan of the locks of guns and fire-arms [ <i>priming flint locks</i> ].	4054	12th Aug. 1816	Samuel Nock.
Construction and use of fire-arms [ <i>loading small arms at the breech</i> ].	4107	11th March 1817	Urbanus Sartoris.



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<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Locks for fire-arms [ <i>flint</i> ] - - - - -	4166	26th Sept. 1817	Joseph Manton.
Safeguard to prevent the accidental movement forward of the cock of a gun, pistol, or other fire-arm towards the hammer [ <i>for flint locks</i> ].	4218	3rd Feb. 1818	Matthew Cotes Wyatt.
Producing ignition in fire-arms by the condensation of atmospheric air.	4281	22nd July 1818	Urbanis Sartoris.
Primers for fire-arms; also construction of parts of fire-arms [ <i>percussion priming</i> ].	4285	3rd Aug. 1818	Joseph Manton.
Fire-arms of various descriptions; also applicable to cannon [ <i>loading cannons and small arms at the breech</i> ].	4315	24th Nov. 1818	Elisha Hayden Collier.
Fire-arms [ <i>flint locks; priming flint locks; loading small arms at the breech</i> ].	4336	23rd Jan. 1819	Urbanis Sartoris.
Method of facilitating and ensuring the discharge of fire-arms and artillery of every description [ <i>by a detonating composition; percussion locks; percussion priming</i> ].	4427	15th Jan. 1820	Francis Fox, junior.
Construction of locks of fowling-pieces and fire-arms [ <i>flint locks</i> ].	4577	30th July 1821	John Manton.
Mechanism of and appertaining to "Forsyth's roller magazine," for the discharge of fowling-pieces and fire-arms in general by means of percussion [ <i>percussion priming</i> ].	4590	14th Sept. 1821	William Webster.
Construction of gun and pistol locks [ <i>percussion priming</i> ].	4611	10th Nov. 1821	William Westley Richards.
Improvement upon the locks for guns and other fire-arms, which enables the same lock to be used upon the percussion principle or with gunpowder, without changing the lock or hammer.	4648	12th Feb. 1822	Samson Davis.
Machinery for cutting out irregular forms in wood or any other substance, by tools with continuous or reciprocating circular motion [ <i>cutting out gun-stocks with a lathe</i> ].	4652	2nd March 1822	John William Buckle.
Construction of guns and fire-arms upon the self-priming and detonating principle [ <i>flint or percussion locks; priming percussion locks</i> ].	4727	26th Nov. 1822	Joseph Egg.
Communicating spiral motion to shot and shells when fired from plain barrels, and igniting by percussion shells to which such motion has been communicated.	4750	16th Jan. 1823	George Miller.
Construction of locks used for the discharge of guns and other fire-arms upon the detonating principle [ <i>priming percussion locks</i> ].	4823	29th July 1823	John Jackson.
Fireworks [ <i>employing self-igniting paper crackers or matches instead of fuses, for discharging cannon and firing the trains of mines</i> ].	4853	16th Oct. 1823	Sir William Congreve.
Percussion gun-locks for various sorts of fire-arms -	4881	13th Nov. 1823	John Day.
Throwing shells and other projectiles [ <i>by the power of compressed steam</i> ].	4952	15th May 1824	Jacob Perkins.
Making locks for guns, pistols, and other fire-arms [ <i>flint or percussion</i> ].	4960	20th May 1824	James Cook.
Applying percussion to the purpose of igniting charges in fire-arms generally [ <i>percussion locks</i> ].	4990	27th July 1824	Charles Random Baron De Berenger.
Method of preventing the accidental discharge of fowling-pieces or other fire-arms [ <i>a stop in the lock</i> ].	5026	4th Nov. 1824	Rev. John Somerville.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Cock to be applied to the lock of fire-arms or ordnance, for firing the same by percussion, and whereby the priming is rendered impervious to wind, rain, or damp.	5033	6th Nov. 1824	Thomas Cartmell.
Improvements applicable to guns and other fire-arms [ <i>protecting the priming from wet</i> ].	5055	18th Dec. 1824	Samson Davis.
Fire-arms [ <i>flint or percussion locks for repeating fire-arms, constructed to slide; priming flint locks</i> ].	5099	19th Feb. 1825	Jacob Mould.
Improvements in fire-arms [ <i>revolving primer for percussion locks</i> ].	5108	26th Feb. 1825	Joseph Manton.
Artillery, musketry, and other fire-arms [ <i>constructed to obtain repeated discharges without reloading; loading cannons and small arms at the breech; triggers for single and double barrelled fire-arms</i> ].	5155	23rd April 1825	Augustin Louis Hunout.
Construction, arrangement, and simplification of the machinery by which guns, pistols, and other fire-arms are discharged [ <i>percussion locks</i> ].	5175	20th May 1825	Isaac Riviere.
Fowling-pieces and other fire-arms [ <i>flint locks; percussion priming</i> ].	5242	15th Aug. 1825	Charles Downing.
Exploding fire-arms [ <i>by the sudden compression of a volume of air</i> ].	5317	16th Jan. 1826	Benjamin Newmarch.
Machinery for working ordnance [ <i>running guns out for loading by means of a convolute spring</i> ].	5379	22nd June 1826	Thomas Halaham.
Fire-arms [ <i>applying percussion locks to cannon</i> ]	5421	7th Nov. 1826	Benjamin Newmarch.
Projectile [ <i>protecting the priming of fire-arms from wet; ramrods</i> ].	5726	8th Dec. 1828	Isaac Dickson.
Construction of locks for fowling-pieces and other fire-arms [ <i>percussion locks</i> ].	5838	2nd Sept. 1829	George Henry Manton.
Construction of cannon [ <i>loading cannons at the breech</i> ].	5839	9th Sept. 1829	John Tucker.
Apparatus to be applied to fowling-pieces and other fire-arms in place of locks [ <i>percussion locks and priming</i> ]	5845	15th Sept. 1829	{ David Lawrence. John Crundwell.
Fire-arms, and certain other weapons of defence [ <i>flint or percussion locks and priming</i> ].	5905	27th Feb. 1830	Charles Random Baron De Berenger.
Nipple or touch-hole to be applied to fire-arms for firing the same by percussion; cap or primer to contain the priming by which such fire-arms are to be fired.	5978	7th Aug. 1830	Samuel Smith.
Construction of guns and fire-arms [ <i>locks for air-guns</i> ]	6046	6th Dec. 1830	{ John George Lacy. Samson Davis.
Lock, break-off, and trigger for fowling-pieces, muskets, rifles, pistols, and small fire-arms [ <i>flint or percussion lock</i> ].	6053	17th Dec. 1830	Bartholomew Redfern.
Touch-holes and primers suitable to percussion guns, pistols, and all sorts of arms fired on that principle.	6071	11th Feb. 1831	William Westley Richards.
Guns, muskets, and other fire-arms, and method of priming the same [ <i>loading small arms at the breech</i> ].	6137	13th July 1831	Augustus Demondion.
Fire-arms [ <i>loading small arms at the breech</i> ]	6139	15th July 1831	John De Burgh, Marquis of Clanricarde.
Fire-arms [ <i>percussion priming; triggers for single and double barrelled fire-arms</i> ]	6166	24th Sept. 1831	{ William Bingham. William Dupe.
Certain descriptions of fire-arms [ <i>percussion priming</i> ]	6196	15th Dec. 1831	Abraham Adolp Moser.



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<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Priming percussion-locks of guns and pistols [ <i>applying a magazine containing detonating caps for the purpose</i> ].	6326*	2nd Nov. 1832	Leopold Foucaud.
Percussion-locks, applicable to fire-arms [ <i>protecting the priming of fire-arms from wet</i> ].	6394	7th March 1833	Charles Jones.
Arrangement of additions to and alterations in certain parts of gun and pistol locks [ <i>percussion-locks; protecting the priming of fire-arms from wet</i> ].	6436	12th June 1833	Charles Jones.
Fire-arms [ <i>percussion priming</i> ] - - - -	6572	13th March 1834	John Augustus Manton.
Certain parts of certain descriptions of fire-arms [ <i>loading small arms at the breech; percussion priming</i> ] - - - -	6611	22nd May 1834	{ Charles Louis Stanislas Baron Heurteloup.
Fire-arms; ammunition for the same [ <i>flint or percussion locks; percussion priming; sights</i> ].	6675	6th Sept. 1834	Henry Shrapnel.
Guns, muskets, and other fire-arms [ <i>flint or percussion locks</i> ].	6825	28th April 1835	Rev. John Somerville.
Construction of fire-arms; partly applicable to the making and using common and other ordnance [ <i>flint or percussion locks; loading small arms at the breech; applicable to common ordnance</i> ].	6828	30th April 1835	Isaac Dodds.
Fire-arms [ <i>flint or percussion locks and priming</i> ]. -	6829	9th May 1835	Joseph Egg.
Manufacture of fire-arms and artillery [ <i>ramrods</i> ] -	6872	7th Aug. 1835	William Mason.
Improvements applicable to fire-arms [ <i>percussion-locks; loading small arms at the breech, and protecting the priming from wet</i> ].	6909	22nd Oct. 1835	Samuel Colt.
Primers for discharging fire-arms by means of percussion.	7041	22nd March 1836	William Westley Richards.
Priming fire-arms, applicable to percussion-locks -	7282	17th Jan. 1837	John Gall.
Ordnance and other fire-arms [ <i>loading cannons and small arms at the breech</i> ].	7286	19th Jan. 1837	Moses Poole.
Primer for fire-arms [ <i>for percussion-locks</i> ] - -	7582	2nd March 1838	William Westley Richards.
Fire-arms [ <i>percussion locks</i> ] - - - -	7610	10th April 1838	Joseph Rock Cooper.
Manufacture of certain parts of gun and pistol locks [ <i>flint or percussion</i> ] - - - -	7712	30th June 1838	{ George Round. Samuel Whitford.
Instrument for pointing mortars for throwing shells, or for firing shot from the same.	7759	2nd Aug. 1838	John Dennett.
Fowling-pieces and other fire-arms [ <i>priming percussion-locks</i> ].	7965	11th Feb. 1839	George Henry Manton.
Fire-arms; balls to be used therewith [ <i>percussion-locks and priming; breech to facilitate the loading of rifled small arms; wrapping balls in muslin to attach them to the cases of cartridges; ramrods to be used as substitutes for bayonets</i> ].	7980	23rd Feb. 1839	Charles Louis Stanislas Baron Heurteloup.
Guns, pistols, and other denominations of fire-arms [ <i>percussion locks; safety bolting guard triggers</i> ] -	8024	9th April 1839	{ George Stocker. Joseph Bentley.
Fire-arms [ <i>percussion priming</i> ] - - - -	8119	22nd June 1839	Henry Wilkinson.
Firing and carrying fire-arms on horseback - -	8205	23rd Aug. 1839	Charles Barwell Coles.
Fire-arms; balls to be used therewith [ <i>percussion priming, and applying detonating powder to balls</i> ].	8347	21st Jan. 1840	Joseph Rock Cooper.
Fire-arms [ <i>loading small arms at the breech</i> ] - -	8513	20th May 1840	William Bush.
Discharging ordnance, muskets, fowling-pieces, and other fire-arms [ <i>percussion-caps and priming, and protecting the same from wet</i> ].	8704	17th Nov. 1840	Joshua Shaw.

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<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Treating and preparing whalebone and the fins and similar parts of whales; rendering them fit for commercial and other purposes [ <i>for ramrods</i> ].	8885	17th March 1841	Lawrence Kortright.
Manufacture of continuous priming for, and mechanism for the application of the same to certain description of fire-arms [ <i>by percussion</i> ].	9084	9th Sept. 1841	Charles Louis Stanislas Baron Heurteloup.
Fire-arms [ <i>loading small arms at the breech</i> ] - -	9119	14th Oct. 1841	Moses Poole.
Fire-arms [ <i>loading small arms at the breech</i> ] - -	9129	2nd Nov. 1841	{ William Golden. John Hanson.
Construction of gun and pistol locks and primers for the discharge of fire-arms [ <i>percussion locks and primers</i> ].	9177	14th Dec. 1841	William Westley Richards.
Percussion-caps for discharging fire-arms - -	9188	16th Dec. 1841	Thomas Starkey.
Fire-arms [ <i>priming percussion-locks</i> ] - - -	9258	15th Feb. 1842	Alexander Rousseau.
Fire-arms [ <i>percussion caps and priming</i> ] - -	9801	24th June 1843	William Needham.
Manufacturing certain materials as substitutes for whalebone; machinery for effecting the same [ <i>rolled or twisted strips of metal used in ramrods</i> ].	9851	24th July 1843	Joseph Daniel Davidge.
Safety bolt and tumbler for the locks of certain kinds of fire-arms - - - - -	<a href="#">10,109</a>	14th March 1844	{ Thomas Seymour. John Seymour.
Fire-arms [ <i>percussion-locks</i> ] - - - - -	<a href="#">10,280</a>	30th July 1844	Joseph Bentley.
Artillery, guns, pistols, and other fire-arms; apparatus to be used therewith [ <i>percussion locks; priming for and supplying the same to fire-arms</i> ].	<a href="#">10,667</a>	14th May 1845	Charles James Smith.
Fire-arms and ordnance [ <i>percussion priming for and supplying the same to fire-arms</i> ].	<a href="#">10,718</a>	10th June 1845	Joseph Washington Tyson.
Guns [ <i>percussion-locks; sights</i> ] - - - - -	<a href="#">10,849</a>	2nd Oct. 1845	John Hale.
Machinery for making candlestick-pans and other articles produced by stamping; machinery for making sockets or tubes for candlesticks [ <i>also manufacturing percussion caps</i> ].	<a href="#">11,197</a>	5th May 1846	William Church.
Manufacture of explosive compounds [ <i>gun-cotton for mining purposes; charging percussion-caps with gun-cotton</i> ].	<a href="#">11,407</a>	8th Oct. 1846	John Taylor.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of gun-stocks</i> ] - - - - -	<a href="#">11,455</a>	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Construction and arrangement of machinery to be used in cutting, stamping, and pressing [ <i>manufacturing percussion-caps</i> ].	<a href="#">11,540</a>	21st Jan. 1847	Thomas Deakin.
Producing power for the discharging of weapons and missiles, and for other purposes [ <i>compressing and heating air for working air-guns or cannons by the use of red-hot balls or bullets; preventing the concussion and partly destroying the report</i> ].	<a href="#">11,864</a>	9th Sept. 1847	Connor William O'Leary.
Machinery for making butts or stocks for fire-arms and other irregular forms.	<a href="#">11,880</a>	30th Sept. 1847	Ignacio De Barros.
Construction of fire-arms [ <i>loading small arms at the breech; percussion priming</i> ].	<a href="#">11,964</a>	10th Dec. 1847	Stephen Taylor.
Fire-arms [ <i>priming percussion-locks; actuating priming apparatus by means of ramrods</i> ].	<a href="#">12,432</a>	20th Jan. 1849	Henry Needham.
Machinery for making butts or stocks for fire-arms and other irregular forms.	<a href="#">12,519</a>	14th March 1849	Ignacio De Barros.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Priming and apparatus for discharging fire-arms [ <i>priming percussion-locks; actuating priming apparatus by means of ramrods</i> ] - - - -	<a href="#">12,543</a>	28th March 1849	{ George Henry Manton. Josiah Harrington.
Fire-arms and ordnance [ <i>loading small arms at the breech; percussion locks and priming</i> ].	<a href="#">12,613</a>	15th May 1849	Louis Alfred De Chatauvillard.
Mechanical purchases, applicable to projectiles [ <i>elastic purchases to the breeching of cannons</i> ].	<a href="#">12,623</a>	29th May 1849	Richard Edward Hodges.
Fire-arms [ <i>loading small arms at the breech; percussion priming</i> ].	<a href="#">12,648</a>	7th June 1849	William Henry Ritchie.
Fire-arms [ <i>loading small arms at the breech; lever apparatus to be used instead of loose ramrods</i> ].	<a href="#">12,668</a>	20th June 1849	Samuel Colt.
Air-guns [ <i>locks for air-guns</i> ] - - - -	<a href="#">12,738</a>	1st Aug. 1849	John Shaw.
Fire-arms [ <i>making parts of ramrods act as spring hammers</i> ].	<a href="#">12,781</a>	20th Sept. 1849	Joseph Rock Cooper.
Locks for guns and pistols - - - -	<a href="#">12,911</a>	29th Dec. 1849	Louis Cesaires Charpillon.
Construction of guns and cannons, and manufacture of cartridges for the loading or charging thereof [ <i>loading cannons and small arms at the breech; percussion priming</i> ].	<a href="#">12,920</a>	11th Jan. 1850	Matthew Urlwin Sears.
Muskets, cannons, and other fire-arms [ <i>loading cannons and small arms at the breech</i> ] - - - -	<a href="#">13,215</a>	6th Aug. 1850	{ Alexander Melville. Edward Callow.
Rifles and other fire-arms [ <i>loading small arms at the breech; tubular ramrods</i> ].	<a href="#">13,527</a>	21th Feb. 1851	Robert Adams.
Fire-arms, and instruments and apparatus used in connection therewith [ <i>sights</i> ].	<a href="#">13,934</a>	29th Jan. 1852	François Jules Manceaux.
Locks of fire-arms and cannon; gun-matches; mode of igniting gunpowder used in guns; machinery for manufacturing the same [ <i>primers for applying percussion priming</i> ].	<a href="#">13,935</a>	29th Jan. 1852	Joseph Maximilian Ritter Von Winiwarter.
Fire-arms [ <i>loading small arms at the breech; percussion locks</i> ].	<a href="#">13,994</a>	3rd March 1852	George Leopold Ludwig Kufahl.
Fire-arms; means used for discharging the same; projectiles [ <i>percussion primers and caps; loading small arms at the breech</i> ].	<a href="#">14,027</a>	20th March 1852	William Westley Richards.
Ordnance and fire-arms, balls and shells [ <i>discharging several balls without re-charging; method of firing guns under the water-line of gunboats or other vessels</i> ].	<a href="#">14,041</a>	24th March 1852	John Macintosh.
Fire-arms [ <i>loading small arms at the breech; discharging by percussion</i> ].	<a href="#">14,052</a>	31st March 1852	Moses Poole.
Fire-arms, and methods of discharging the same [ <i>loading small arms at the breech</i> ].	<a href="#">14,066</a>	17th April 1852	Henri Gustave Delvigne.
Priming fire-arms - - - -	<a href="#">14,085</a>	22nd April 1852	Alfred Vincent Newton.
Fire-arms and ordnance; machinery or apparatus for the manufacture of part or parts of such fire-arms and ordnance [ <i>loading cannon and small arms at the breech</i> ] - - - -	<a href="#">14,087</a>	24th April 1852	{ William Church. Samuel Aspinwall Goddard. Edward Middleton.
Fire-arms [ <i>loading small arms at the breech</i> ] - -	<a href="#">14,227</a>	20th July 1852	Joseph William Schlesinger.
Fire-arms [ <i>percussion locks; loading small arms at the breech</i> ].	<a href="#">14,265</a>	19th Aug. 1852	Thomas Hunt.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Ordnance and fire-arms, cartridges and ammunition or projectiles, and mode of making up or preparing the same [ <i>mode of causing a three-pounder gun to impel a six-pounder shell; sights</i> ].	<a href="#">14,271</a>	23rd Aug. 1852	Henry Needham Scrope Shrapnel.
Construction of fire-arms [ <i>loading small arms at the breech by percussion</i> ]. [For Preventing Accidental Discharge, see "ACCIDENTS."]	<a href="#">14,389</a>	10th Sept. 1852	Stephen Taylor.
<b>V.—Gunpowder and Cartridges; Shot and other Projectiles; Fuses.</b>			
Making bullets and other utensils of iron-ore, stone, flags, cinders, old iron, and other materials, after being smelted.	<a href="#">291</a>	29th Feb. 1692	Thomas Addison.
Making granada shells of glass - - - -	<a href="#">303</a>	22nd Sept. 1692	Philip Dallows.
Several small engines to be used on board frigates or merchant ships to destroy enemies attempting to board the same.	<a href="#">335</a>	29th Sept. 1694	Colonel Jacob Richards.
Bomb or granado - - - - -	<a href="#">434</a>	12th Aug. 1721	Isaac de la Chaumette.
Machine whereby shot used for fowling, and bullets of lead, are made more exactly round and solid than heretofore.	<a href="#">725</a>	29th June <a href="#">1758</a>	Henry Raminger.
Making gunpowder from sulphur, stones, or brasses found in coal-mines.	<a href="#">646</a>	22nd April <a href="#">1766</a>	Thomas Delaval.
Making small shot, solid throughout, perfectly globular in form, and without the imperfections usual in shot as hitherto manufactured.	<a href="#">1347</a>	10th Dec. <a href="#">1782</a>	William Watts.
Making shot or shell with metal [ <i>formed with a belt, or wings, or grooves</i> ].	<a href="#">1694</a>	30th July 1789	John Wilkinson.
Wadding for all kinds of guns and pistols - -	<a href="#">1893</a>	5th July 1792	Joseph Manton.
Improvements to be applied to any kind of fire-arms or defensive instruments [ <i>affixing a tail to balls or bullets</i> ].	<a href="#">2744</a>	3rd Dec. 1803	James Sturman Searles.
Machine for making bullets and other shot - -	<a href="#">2932</a>	1st May 1806	William Bundy.
Manufacture of cannon cartridge-paper - - -	<a href="#">3080</a>	12th Nov. 1807	John Dickinson.
Single and double cannon, cannonades, or ordnance, muskets, and all other kinds of fire-arms, and charging or loading the same [ <i>balls or bullets for rifled cannon, of cast iron, coated with soft metal</i> ].	<a href="#">3155</a>	30th July 1808	George Richards.
Gunpowder - - - - -	<a href="#">3328</a>	11th April 1810	William Parr.
Employing raw and refined sugars in the composition of sundry articles of merchandise in great demand, where it has not hitherto been used [ <i>making gunpowder, &amp;c., by means thereof</i> ].	<a href="#">3510</a>	4th Dec. 1811	Frederick Albert Winsor.
Construction and use of fire-arms [ <i>cartridges</i> ] -	<a href="#">3838</a>	4th Aug. 1814	Jean Samuel Pauly.
Walking-stick [ <i>to contain pistol, powder, and ball</i> ] -	<a href="#">3837</a>	17th Aug. 1814	Henry William Vander Kleft.
Manufacturing gunpowder - - - - -	<a href="#">3937</a>	3rd July 1815	Sir William Congreve.
Construction and use of fire-arms [ <i>cartridges</i> ] -	<a href="#">4026</a>	14th May 1816	Jean Samuel Pauly.
Making cannon-shot, by which a superior shot is produced, in the solidity and smoothness of its external surface.	<a href="#">4705</a>	27th Sept. 1822	Benjamin Boothby.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Fireworks [ <i>rockets for signals, lighting an enemy's camp, &amp;c.</i> ]	4853	16th Oct. 1823	Sir William Congreve.
Shot [ <i>plated with a thin coat of mercury</i> ] - - -	5135	25th March 1825	Joseph Manton.
Preparing explosive mixtures - - - -	5402	12th Aug. 1826	Erskine Hazard.
Cartridge or case, and method of enclosing therein shot or other missiles for loading fire-arms and guns [ <i>by using thin wire-gauze</i> ].	5570	28th Nov. 1827	Joshua Jenour, junior.
Cartridge for sporting purposes [ <i>consisting of two concentric tubes of paper</i> ].	5708	18th Sept. 1828	Edward Forbes Orson.
Projectile [ <i>a walking-stick gun</i> ] - - - -	5726	8th Dec. 1828	Isaac Dickson.
Making cartridges for sporting and for other purposes.	5738	15th Dec. 1828	John Dicken Whitehead.
Exploding shot or projectile [ <i>small bomb-shell formed to explode by percussion</i> ].	5864	2nd Nov. 1829	John Tucker.
Cartridges, and machinery for making cartridges and priming;—applicable to other purposes.	6137	13th July 1831	Augustus Demondion.
Fire-arms, and projectiles to be used therewith [ <i>cartridges</i> ].	6139	15th July 1831	John De Burgh, Marquis of Clanricarde.
Instrument for igniting gunpowder when used for blasting rocks and in mining; " <i>miner's safety fuze</i> ."	6159	6th Sept. 1831	William Bickford.
Certain descriptions of fire-arms [ <i>ball-cartridges</i> ] -	6196	15th Dec. 1831	Abraham Adolp Moser.
Projectiles to be used with ordnance - - -	6491	19th Oct. 1833	Thomas Augustus Gregory Baron Gillyon.
Certain parts of certain descriptions of fire-arms [ <i>cartridges</i> ].	6611	22nd May 1834	Charles Louis Stanislas Baron Heurteloup.
Wadding for fire-arms - - - - -	6633	26th June 1834	Richard Walker.
Fire-arms of various descriptions, and ammunition for the purposes of fire-arms [ <i>balls or bullets of lead or iron, and iron coated with tin; filling hollow shot with small shot</i> ].	6675	6th Sept. 1834	Henry Shrapnel.
War-rockets, and methods and apparatus for applying the powers of rockets for obtaining communication with stranded ships [ <i>percussion fuzes for shells of rockets</i> ].	7759	2nd Aug. 1838	John Dennett.
Cartridges - - - - -	7875	15th Nov. 1838	Thomas French Berney.
Balls to be used with fire-arms - - - -	7980	23rd Feb. 1839	Charles Louis Stanislas Baron Heurteloup.
Cartridges - - - - -	8143	6th July 1839	Thomas French Berney.
Balls to be used with fire-arms [ <i>applying charges of detonating powder to them</i> ].	8347	21st Jan. 1840	Joseph Rock Cooper.
Manufacture of projectiles [ <i>machinery for forming balls or bullets by dies and pressure</i> ].	8385	12th Feb. 1840	David Napier.
Cartridges [ <i>applying percussion powder</i> ] - - -	8513	20th May 1840	William Bush.
Machine for cutting gun-wads - - - -	9069	8th Sept. 1841	Joseph Drew, junior.
Bullets or other projectiles for fire-arms [ <i>applying charges of fulminating powder to them</i> ] - - }	9129	2nd Nov. 1841	{ William Golden. John Hanson.
Manufacture of shot - - - - -	9673	20th March 1843	Solomon Rolinson.
Manufacture of wadding for fire-arms - - -	9712	25th April 1843	William Brockedon.
Rockets - - - - -	10,008	11th Jan. 1844	William Hale.
Fuzes, cartridges, and other like explosive instruments [ <i>also rockets</i> ].	10,364	24th Oct. 1844	Henry Carbines.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Manufacture of the miner's safety fuze [ <i>for firing cannon and mines</i> ] - - - - -	<a href="#">10,928</a>	6th Nov. 1845	{ John Solomon Bickford. George Smith. Thomas Davey.
Safety fuze [ <i>for firing cannon and mines</i> ] - - -	<a href="#">11,447</a>	12th Nov. 1846	George Smith.
Cartridges - - - - -	<a href="#">11,657</a>	15th April 1847	John Mollett.
Construction of fire-arms, and cartridges for charging the same [ <i>balls or bullets; making them hollow and open at the rear to receive a charge of powder</i> ].	<a href="#">11,994</a>	10th Dec. 1847	Stephen Taylor.
Machinery for manufacturing shot and other solid balls.	<a href="#">12,048</a>	31st Jan. 1848	Alfred Vincent Newton.
Manufacture of fuzees [ <i>for firing cannon and mines</i> ] -	<a href="#">12,406</a>	11th Jan. 1849	Michael Loam.
Cartridges [ <i>and making balls serve as cartridges</i> ] -	<a href="#">12,613</a>	15th May 1849	Louis Alfred De Chatauvillard.
Manufacturing certain articles in lead [ <i>shot</i> ] - -	<a href="#">12,624</a>	29th May 1849	David Smith.
Fire-arms [ <i>cartridges</i> ] - - - - -	<a href="#">12,648</a>	7th June 1849	William Henry Ritchie.
Construction of guns and cannons, and manufacture of cartridges for the loading or charging thereof [ <i>bullets to be used with rifled barrels</i> ].	<a href="#">12,920</a>	11th Jan. 1850	Matthew Urlwin Sears.
Treating peat and other carbonaceous and ligneous matters so as to obtain products therefrom [ <i>making gunpowder of charred peat impregnated with sulphur</i> ].	<a href="#">12,990</a>	7th March 1850	William Benson Stones.
Manufacture of fire-arms and cannon, and of percussion-tubes [ <i>balls or bullets for rifle fire-arms</i> ].	<a href="#">13,161</a>	3rd July 1850	Charles William Lancaster.
Muskets, cannon, and other fire-arms; explosive compositions and instruments [ <i>also balls or bullets for rifled cannon; percussion shells and arrows charged with explosive compounds to produce light at any required distance</i> ] - - -	<a href="#">13,215</a>	6th Aug. 1850	{ Alexander Melville. Edward Callow.
Protecting and confining gunpowder and compounds thereof, and material used for such purpose [ <i>using tinfoil for making cartridge-cases, percussion-caps, and wads; also as cases for fire-works</i> ] - - - - -	<a href="#">13,377</a>	30th Nov. 1850	{ James Augustus Elmslie. George Simpson.
Manufacture of fire-arms and cannons and projectiles [ <i>wadding for fire-arms; also balls or bullets for rifled fire-arms; percussion-shells</i> ].	<a href="#">13,454</a>	16th Jan. 1851	Charles William Lancaster.
Fire-arms, and instruments and apparatus used in connection therewith [ <i>balls or bullets for rifled fire-arms</i> ].	<a href="#">13,934</a>	29th Jan. 1852	François Jules Manceaux.
Fire-arms, and means used for discharging the same; also projectiles [ <i>wadding for fire-arms</i> ].	<a href="#">14,027</a>	20th March 1852	William Westley Richards.
Balls and shells [ <i>making balls serve as cartridges</i> ] -	<a href="#">14,041</a>	24th March 1852	John Macintosh.
Fire-arms and projectiles [ <i>making balls serve as cartridges</i> ].	<a href="#">14,058</a>	6th April 1852	John Walter De Longueville Giffard.
Explosive compounds and fuses; also methods of firing the same [ <i>may be used instead of gunpowder for the discharge of cannon and firing mines</i> ] -	<a href="#">14,065</a>	15th April 1852	{ Simon Davey. Adolphe Ludovic Chanu.
Projectiles [ <i>balls or bullets</i> ] - - - - -	<a href="#">14,066</a>	17th April 1852	Henri Gustave Delvigne.
Fire-arms and ordnance; projectiles to be used with such or the like weapons; machinery or apparatus for the manufacture of part or parts of such fire-arms, ordnance, and projectiles [ <i>machinery for rifling rocket-tubes; forming the fore end of bullets with wings or vanes</i> ] - - - - -	<a href="#">14,087</a>	24th April 1852	{ William Church. Samuel Aspinwall Goddard. Edward Middleton.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Cartridges [ <i>to be used instead of powder</i> ] - - -	<a href="#">14,227</a>	20th July 1852	Joseph William Schlesinger
Ordnance and fire-arms, cartridges and ammunition, or projectiles, and mode of making up or preparing the same [ <i>gun-wads, percussion and other shells, balls and bullets</i> ].	<a href="#">14,271</a>	23rd Aug. 1852	Henry Needham Scrope Shrapnel.
Cartridges for charging fire-arms - - - - - [For Preventing Explosion of Gunpowder, see "ACCIDENTS."]	<a href="#">14,289</a>	10th Sept. 1852	Stephen Taylor.
<b>VI.—Powder-flasks, Shot-belts, Cartridge-boxes, Holster-cases, and Scabbards.</b>			
Horn for Gunpowder - - - - -	<a href="#">143</a>	3rd March 1664	Abraham Hill.
Powder-flasks - - - - -	<a href="#">434</a>	12th Aug. 1721	Isaac de la Chaumette.
Shooting belt or girdle - - - - -	<a href="#">776</a>	8th June 1762	James Edgell.
Machine for the carriage of soldiers' cartridges [ <i>pouches and boxes</i> ].	1173	28th Nov. 1777	William Rawle.
Vessel or barrel for the more safe and expeditious carriage and conveyance of gunpowder.	2658	13th Nov. 1802	Henry Smith.
Cartridge-box - - - - -	2810	19th Jan. 1805	Thomas Hamilton Keddie.
Powder-flasks and shot-belts - - - - -	2865	3rd July 1805	Alexander Wilson.
Single and double cannon, cannonades or ordnance, muskets, and all kinds of fire-arms; method of charging or loading the same [ <i>belts for containing cartridges</i> ].	3155	30th July 1808	George Richards.
Machine or vessel for the safe conveyance of gunpowder and for its preservation from injury by damp.	3373	7th Sept. 1810	James Walker.
Construction of fire-arms and their locks; apparatus for trying and loading them [ <i>powder-flasks</i> ].	3599	25th Sept. 1812	Durs Egg.
Construction of fire-arms, and locks to fire-arms [ <i>powder flasks</i> ].	3784	9th March 1814	James Thomson.
Construction of guns, pistols, and other fire-arms; implements used for loading them [ <i>shot-belts and powder-flasks</i> ].	3828	4th Aug. 1814	Thomas Sykes.
Manufacture of holster-cases, cartouch-boxes, and other cases [ <i>by making them of plate-iron riveted together</i> ].	4724	9th Nov. 1822	Francis Deakin.
Engine or machine for making scabbards from one piece of leather without any seam or sewing whatever, and sheaths for all kinds of swords and bayonets.	4923	20th March 1824	Jean Henry Petitpierre.
Gunpowder-flasks, powder-horns, and other utensils used for the purpose of carrying gunpowder therein, in order to load therefrom guns, pistols, blunderbuses, and other fire-arms.	5439	20th Dec. 1826	Charles Random Baron De Berenger.
Forming a fabric applicable to various uses, by combining caoutchouc or certain compounds thereof with wood, whalebone, or other fibrous materials manufactured for that purpose, or with metallic substances, manufactured or prepared [ <i>scabbards; also cartouch-boxes</i> ].	8382	8th Feb. 1840	James Hancock.
Cases and magazines for gunpowder - - - - -	9047	13th Aug. 1841	{ William Hale. Edward Dell.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAPONS OF DEFENCE, &amp;c.—continued.</b>			
Artillery, guns, pistols, and other fire-arms, and apparatus to be used therewith [ <i>gunpowder-flasks</i> ].	<a href="#">10,007</a>	14th May 1845	Charles James Smith.
Apparatus for measuring charges of powder [ <i>gunpowder flasks</i> ].	<a href="#">10,683</a>	22nd May 1845	Michel Boche.
Nautical instruments; manufacture of cases for containing instruments, goods, or merchandise [ <i>application of vulcanized india-rubber, gutta-percha, or combinations of the same, to the manufacture of cartouch or cartridge-boxes</i> ].	<a href="#">12,059</a>	8th Feb. 1848	William Peter Piggott.
Cartridge-boxes and other military accoutrements [ <i>sheaths for bayonets and scabbards for swords</i> ]. [For Military Accoutrements, see "WEARING-APPAREL."]	<a href="#">14,029</a>	22nd March 1852	John Drumgoole Brady.
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<b>WEARING-APPAREL.</b>			
<b>L.—Coats, Habits, Waistcoats, Trousers, and other Wearing-apparel.</b>			
Making an air-jacket of leather for swimming purposes.	<a href="#">808</a>	31st March 1764	William Cobb.
Making cloaks and waistcoats ornamented with feathers and other materials.	<a href="#">1280</a>	26th Feb. 1781	Harriet Bridget Hunt.
Cutting and making breeches in leather, velvet, silk, worsted, and other materials.	<a href="#">1358</a>	27th Feb. 1783	Thomas Lingham.
Making coats and riding-habits without seams in the backs or sides.	<a href="#">1487</a>	16th July 1785	George Phillips.
Machine for cutting out and embellishing leather used in manufacturing breeches with ornaments in gold and silver and colours.	<a href="#">1526</a>	31st Jan. 1786	John Bull.
Apparel for a protection to the breeches and upper part of the stockings, against wet.	<a href="#">1600</a>	8th May 1787	John Baster.
Making coats, waistcoats, breeches, cloaks, and other clothing for persons afflicted with the gout, rheumatism, or other complaints requiring warmth.	<a href="#">1670</a>	22nd Sept. 1788	George Holland.
Making breeches - - - - -	<a href="#">1699</a>	29th Aug. 1789	James M'Donald.
Manufacture of coats, breeches, and other clothing where warmth is required.	<a href="#">1736</a>	20th March 1790	George Holland.
Making ladies' elastic habits and gentlemen's coats without seam.	<a href="#">2025</a>	25th Nov. 1794	James Key.
Making breeches - - - - -	<a href="#">2278</a>	8th Dec. 1798	John Marks.
Machine for cutting out wearing-apparel - -	<a href="#">3730</a>	9th Aug. 1813	George Scott.
Substance for making coats, waistcoats, habits, pantaloon, or other clothing without seam.	<a href="#">4000</a>	23rd March 1816	Samuel Jean Pauly.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEARING-APPAREL—continued.</b>			
Application of a certain material to render various parts of dress and other articles more elastic [ <i>strips of caoutchouc</i> ].	<b>4451</b>	29th April 1820	Thomas Hancock.
Manufacturing wearing-apparel from waterproof cloth.	<b>5018</b>	14th Oct. 1824	William Philip Weise.
Preparing, combining, or putting together certain materials for making cloaks, coats, and other articles for wearing-apparel in general; also for other purposes [ <i>thin sheets of cork covered with silk plush</i> ]	<b>5347</b>	18th April 1826	{ James Rowbotham. Robert Lloyd.
Manufacturing wearing-apparel - - - - -	<b>5970</b>	5th Aug. 1830	Thomas Hancock.
Making trousers - - - - -	<b>9333</b>	26th April 1842	Joseph Mege.
Machinery for cutting or shaping linen lastings, silks, and other fabrics.	<b>9529</b>	3rd Dec. 1842	Thomas Mansell.
Manufacture of coats and cloaks - - - - -	<b>9544</b>	8th Dec. 1842	William Kempson.
Manufacture of collars, capes, coats, and cloaks -	<b>10,078</b>	24th Feb. 1844	Caleb Bedells.
Manufacture of articles where india-rubber or gutta percha is used [ <i>manufacture of wearing-apparel</i> ]-	<b>11,455</b>	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Garments - - - - -	<b>11,707</b>	22nd May 1847	Henry John Nicoll.
Making certain articles of wearing-apparel - -	<b>12,550</b>	28th March 1849	{ William Beckett. Samuel Powell.
Certain articles of wearing-apparel - - - - -	<b>12,607</b>	14th May 1849	Charlotte Smith.
Construction of articles of wearing-apparel - -	<b>12,698</b>	4th July 1849	Henry Bailey.
Manufacture of wearing-apparel; machinery or apparatus connected therewith.	<b>12,719</b>	1st Aug. 1849	Jerome Andre Drieu.
Cutting and shaping garments and other articles of dress for the human body.	<b>12,818</b>	18th Oct. 1849	Thomas Dawson.
Improvements in coats;—partly applicable to sleeves of other garments.	<b>12,820</b>	18th Oct. 1849	Joseph Stovel.
Manufacture of wearing-apparel and other articles from textile materials; machinery or apparatus for effecting the same.	<b>13,249</b>	5th Sept. 1850	Christopher Cross.
Manufacture of fabric for ornamenting articles of dress.	<b>13,578</b>	31st March 1851	John Peter Booth.
Manufacture of wearing-apparel from textile materials.	<b>13,585</b>	8th April 1851	Christopher Cross.
Manufacture of articles of dress [ <i>coats, trousers, and waistcoats</i> ].	<b>14,120</b>	8th May 1852	Alexander Jules Saillant, junior.
Adaptation and application of a new manufactured material to certain articles of dress - - - -	<b>14,237</b>	21st July 1852	{ Richard Buckton. Thomas Lawson.
Manufacture of articles of dress where looped fabrics are used; preparing looped fabrics for making articles of dress and parts of garments [ <i>combining elastic and non-elastic fabrics in making jackets and dresses</i> ]	<b>14,310</b>	30th Sept. 1852	{ Charles Billson. Caleb Bedells.
Manufacture of certain articles of dress - - - -	<b>14,342</b>	6th Nov. 1852	Pierre Armand le Comte de Fontainemoreau.
<b>II.—Gaiters and Overalls.</b>			
Making spatterdashes or gaiters - - - - -	<b>1503</b>	3rd Nov. 1785	{ Joseph Willis. William Saunders.
Gaiters, and modes of fastening the same - -	<b>3694</b>	11th May 1813	{ John Fisher. Layton Cooke.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEARING-APPAREL—continued.</b>			
Gaiters or spatterdashes - - - - -	6251	27th March 1832	Thomas Gaunt.
Apparatus for preventing splashing in walking -	9137	2nd Nov. 1841	Edward Robert Simmons.
Manufacture of overalls; apparatus for the same; } preparing materials for the purpose - - - }	9782	15th June 1843	{ Samuel Mason. Caleb Bedells.
Manufacture of gaiters - - - - -	10,078	24th Feb. 1844	Caleb Bedells.
Gaiters and overalls, and other like articles of apparel	10,692	29th May 1845	Charles Keene.
Apparatus to be attached to boots and shoes to protect the wearer from splashes in walking.	11,478	7th Dec. 1846	John Dacie.
Fastening and connecting fabrics and garments [gaiters to boots or shoes].	12,221	26th July 1848	William Thomas.
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<b>III.—Hats, Caps, and Bonnets; platting Straw.</b>			
Kilns for drying hats with sea-coals, turf, or peat -	102	7th Feb. 1637	Thomas Earl of Berks.
Covering and adorning hats and bonnets - -	403	18th Feb. 1716	Thomas Masters.
Making men's or women's black hats with ruffs of any colour.	522	22nd Oct. 1730	George Kettle.
Making wove wood hats - - - - -	838	28th Oct. 1769	James Hodges.
Waterproof hat—"parapline"—which will effectually keep out rain and damp.	1253	22nd April 1780	Joseph Olivier.
Making hats ornamented with feathers and other materials.	1280	26th Feb. 1781	Harriet Bridget Hunt.
Composition for covering leather hats and all other sorts of hats.	1340	1st Nov. 1782	Dennis Carco.
Making hats or caps of copper, tin, and other metals japanned.	1494	4th Aug. 1785	Samuel Hands.
India summer-hats - - - - -	1841	28th Nov. 1791	George Lyde.
Composition for making hats [fur, wool, and beaver]	1856	2nd March 1792	James Burn.
Machine for manufacturing feathers into hats -	1874	3rd May 1792	Andrew Primerose.
Material article in the making of hats [kids' hair] -	1976	16th Jan. 1794	Joseph Tilstone.
Making waterproof hats - - - - -	2022	11th Nov. 1794	George Dunnage.
Manufacture of straw into hats, bonnets, and other articles.	2234	3rd May 1798	Peter Boileau.
Ventilating the crown of hats - - - - -	2273	27th Nov. 1798	George Dunnage.
Manufacturing hats - - - - -	2283	24th Dec. 1798	{ Thomas Ovey. John Jepson.
Manufacture of straw plat made of split straw, presenting only the outside surface of the straw to the eye, and also of other plat or split straw, laid, put or stuck upon silk, paper, or wood - }	2399	8th May 1800	{ Edward Simpson. Caleb Isbister.
Covering felt for making caps and helmets, and for other useful purposes.	2490	28th April 1801	William Bicknell.
Making hats, soldiers' caps and helmets, from a new material - - - - - }	2497	2nd May 1801	{ William Pritchard. Thomas Willmore.
Making and manufacturing mens' hats and caps -	2547	3rd Nov. 1801	{ John Walker. Godfrey Alphey.
Leghorn and chip hats - - - - -	2619	18th May 1802	Richard Cole.
Making hats, bonnets and other articles, of paper -	2765	19th May 1804	George Simmonds.
Making hats, caps and bonnets, of whalebone -	2985	30th Oct. 1806	Robert Bowman.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEARING-APPAREL—continued.</b>			
Making hats, bonnets, and other articles of the like description.	3121	26th March 1808	Anthony Thomas.
Machinery for accelerating the making of felt or stuff hats.	3222	3rd April 1809	Richard Willcox.
Machinery for facilitating the making of stuff, wool, and other hats and bonnets, felted.	3223	3rd April 1809	Richard Willcox.
Making hats and bonnets of palm-leaves - - -	3397	15th Oct. 1810	John Fraser.
Elastic round hat made of beaver, silk, or other materials.	3561	5th May 1812	Thomas Francis Dollman.
Manufacturing waterproof hats - - - -	3563	5th May 1812	Bassett Burrows.
Making military caps - - - - -	3703	31st May 1813	James Oliphant.
Beaver hat - - - - -	3721	14th July 1813	{ George Ferguson. Joseph Ashton.
Manufacturing straw with gauze net-web and other similar articles, for making hats, bonnets, and other articles.	3930	17th June 1815	Grace Elizabeth Service.
Substance for covering hats and other articles -	4000	23rd March 1816	Jean Samuel Pauly.
Mode of employing silk or other materials in making hats and bonnets.	4145	19th July 1817	Frederick Brunton.
Manufacture of waterproof hats, of silk, wool, beaver, or other fur, the brims of which are perfectly waterproof, and will preserve their shapes, being stiffened without glue or any material which would prevent the effect of waterproof mixture - - - - -	4439	22nd Dec. 1820	{ William Pritchard. Robert Franks.
Clearing furs and wools used in hat-making, from kemps and hairs - - - - -	4574	26th July 1821	{ Thomas Barker. John Rawlinson Harris.
Platting straw, [for making bonnets, hats, &c.] -	4719	28th Oct. 1822	Uriah Lane, junior.
Machinery for dressing or finishing hats, by means of machinery and implements to be used and applied thereto.	4794	27th May 1823	Edward Ollershaw.
Platting straw for the manufacture of hats, bonnets, and other articles therefrom - - - - -	4866	18th Nov. 1823	{ Joseph Gillman. John Hewitson Wilson.
Manufacture of silk hats - - - - -	4868	20th Nov. 1823	Thomas Hopper.
Hats - - - - -	4900	19th Feb. 1824	{ Robert Lloyd. James Rowbotham.
Engine or machine for making the following articles from one piece of leather without any seam or sewing whatever, that is to say, all kinds of caps and hats.	4923	20th March 1824	Jean Henry Petitpierre.
Manufacture of elastic fabric from whalebone, and from whalebone, hemp, and other materials combined, for making elastic bodies for hats, caps, bonnets, and other like articles; also manufacturing such elastic bodies from the same materials by platting.	4976	15th June 1824	John Gibson.
Making hats, bonnets, and caps from waterproof materials.	5018	14th Oct. 1824	William Philip Weise.
Manufacture of hats - - - - -	5248	27th Aug. 1825	{ John Bowler. Thomas Galon.
Making or setting up of hats or hat-bodies - -	5295	17th Nov. 1825	George Borradaile.
Manufacture of hats - - - - -	5328	7th Feb. 1826	{ William Mayhew. William White.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEARING-APPAREL—continued.</b>			
Manufacture of straw plat for making bonnets, hats, and other articles [ <i>from the ordinary wheat straw grown in Tuscany</i> ].	5335	18th Feb. 1826	Thomas Waller.
Making hats - - - - -	5337	18th Feb. 1826	Arnold Buffum.
Preparing, combining, or putting together certain materials for making hats, caps, bonnets, and other articles for wearing-apparel in general; also for other purposes [ <i>thin sheets of cork covered with silk plush</i> ] - - - - -	5347	18th April 1826	{ James Rowbotham. Robert Lloyd.
Preparing straw and grass to be used in the manufacture of hats and bonnets - - - - -	5387	14th July 1826	{ John Guy. Jacob Harrison.
Manufacturing hats and caps with the assistance of machinery.	5412	19th Sept. 1826	Thomas Robinson Williams.
Manufacture of hats and bonnets - - - - -	5630	25th March 1828	Jane Bentley Lowrey.
Manufacture of hat-tips - - - - -	5675	17th July 1828	Benjamin Rider.
Making hats, bonnets, and caps, and covering them with silk and other materials by aid of machinery.	5699	11th Sept. 1828	Thomas Robinson Williams.
Combination of machinery for the manufacture of hats or caps.	5733	10th Dec. 1828	Thomas William Charming Moore.
Manufacture of bonnets in imitation of Leghorn straw bonnets.	5767	5th Feb. 1829	Alexander Daninos.
Machinery employed in the manufacture of hats -	6705	23rd Oct. 1834	George Daniel Carey.
Manufacture of waterproof hats or caps - - -	6946	7th Dec. 1835	Robert William Sievier.
Hats, caps, and bonnets - - - - -	7050	29th March 1836	Thomas Cockerell Hogan.
Manufacture of hats, caps, and bonnets - - -	7205	13th Oct. 1836	{ Henry Scott, junior. Robert Stephen Oliver.
Machinery for manufacturing hat-bodies - - -	7214	28th Oct. 1836	Jeremiah Crook.
Manufacture of hats - - - - -	7222	15th Nov. 1836	Henry Augustus Wells.
Manufacture of hats - - - - -	7397	30th June 1837	Henry Augustus Wells.
Manufacture of hats - - - - -	7935	12th Jan. 1839	William Ponsford.
Forming a fabric applicable to various uses by combining caoutchouc or certain compounds thereof with wood, whalebone, or other fibrous materials manufactured for that purpose, or with metallic substances, manufactured or prepared [ <i>for hat-bodies and military caps</i> ].	8382	8th Feb. 1840	James Hancock.
Manufacture of hat-bodies - - - - -	8710	21st Nov. 1840	{ John Wakefield. John Ashton.
Securing hats, caps, and bonnets from being lost by the wind or other causes.	9114	7th Oct. 1841	Thomas Biggs.
Manufacture of caps and bonnets - - - - -	9544	8th Dec. 1842	William Kempson.
Manufacturing bonnets and hats - - - - -	9785	15th June 1843	Thomas Oldham.
Manufacture of bonnets - - - - -	<a href="#">10,076</a>	24th Feb. 1844	Caleb Bedells.
Hats - - - - -	<a href="#">10,123</a>	23rd March 1844	Alfred Richard Johnson.
Manufacture of hats; machinery connected with such manufacture - - - - -	<a href="#">10,220</a>	6th June 1844	{ David Cheetham. Edward Briggs.
Manufacture of hats - - - - -	<a href="#">10,310</a>	12th Sept. 1844	Alfred Simpson.
Machinery for platting or braiding straw, grass, and other materials, for making Tuscan or Leghorn hats and bonnets.	<a href="#">10,463</a>	11th Jan. 1845	John Ross.
Means and apparatus for shaping hats - - -	<a href="#">10,490</a>	21st Jan. 1845	John Smith.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEARING-APPAREL—continued.</b>			
Manufacture of ladies' bonnets or hats - - -	<a href="#">10,572</a>	20th March 1845	{ Anna Maria Stowell. Thomas Little.
Hats - - - - -	<a href="#">10,602</a>	7th April 1845	Esprit Galibert.
Machinery for shaping the brims of hats - -	<a href="#">10,732</a>	23rd June 1845	Henry Whiting.
Hats, caps, and bonnets - - - - -	<a href="#">10,761</a>	3rd July 1845	William Simmons.
Fastenings for articles of dress [ <i>covering springs for caps and other articles of head dress.</i> ]	<a href="#">11,037</a>	13th Jan. 1846	Thomas Moorcroft Benbow.
Manufacture of hats - - - - -	<a href="#">11,059</a>	27th Jan. 1846	Daniel Ross.
Hats, caps, and bonnets - - - - -	<a href="#">11,246</a>	18th June 1846	Alfred Richard Johnson.
Manufacture of hats - - - - -	<a href="#">11,345</a>	20th Aug. 1846	Henry Parry.
Forming leather into hats and other articles - -	<a href="#">11,413</a>	15th Oct. 1846	{ François Durand. Onésiphore Pecqueur.
Manufacture of caps and bonnets - - - - -	<a href="#">11,512</a>	31st Dec. 1846	{ George David Myers. William Cooper. James Wansbrough.
Manufacture of fabrics for covering hats, caps, and bonnets, which fabrics may be used for other articles of wearing-apparel.	<a href="#">12,005</a>	22nd Dec. 1847	Robert Stamp.
Hats, caps, and hat-cases - - - - -	<a href="#">12,442</a>	25th Jan. 1849	John Talbot Tyler.
Making hats, caps, and bonnets - - - - -	<a href="#">12,546</a>	28th March 1849	François Vouillon.
Machinery or apparatus for making hat-bodies or other similar articles.	<a href="#">12,955</a>	29th Jan. 1850	William Edward Newton.
Manufacture of hats, caps, bonnets, and other coverings for the head - - - - -	<a href="#">13,524</a>	24th Feb. 1851	{ John Hinks. James Vero.
Hats, caps, and bonnets - - - - -	<a href="#">13,743</a>	11th Sept. 1851	John Rowland Crook.
Manufacture of hats - - - - -	<a href="#">13,833</a>	27th Nov. 1851	Henry Ellwood.
Machinery or apparatus for manufacturing hats or caps.	<a href="#">13,968</a>	12th Feb. 1852	John Mollady, junior.
Manufacture of hats - - - - -	<a href="#">14,106</a>	1st May 1852	James Johnson.
Hats and other coverings for the head [ <i>flexible padded lining for hats, helmets, &amp;c.</i> ]	<a href="#">14,345</a>	11th Nov. 1852	Andrew Fulton.
<b>IV.—Muffs, Tippets, and Boas.</b>			
Machine for manufacturing feathers into muffs, tippets, and boas.	<a href="#">1874</a>	3rd May 1792	Andrew Primerose.
Manufacture of boas, muffs, cuffs, flouncings, and tippets - - - - -	<a href="#">9653</a>	1st Oct. 1840	{ George Ritchie. Edward Bowra.
Manufacture of muffs, tippets, ruffs, mantillas, cloaks, shawls, capes, pellerines, boas, cuffs, slippers, and shoes.	<a href="#">9436</a>	3rd Aug. 1842	Archibald Turner.
Manufacture of muffs, cuffs, ruffs, tippets, mantillas, pellerines, and dressing-gowns, and other articles of wearing-apparel.	<a href="#">9544</a>	8th Dec. 1842	William Kempson.
Manufacture of shawls and scarfs - - - - -	<a href="#">10,076</a>	24th Feb. 1844	Caleb Bedells.
Manufacturing fur into fabrics - - - - -	<a href="#">12,179</a>	8th June 1848	Joshua Procter Westhead.
Manufacture of fabric applicable to the construction of muffs, boas, tippets, and other like articles, and also for ornamenting dress, furniture, and for other similar uses [ <i>application of strips of feathers, stitched or otherwise attached to textile fabrics.</i> ]	<a href="#">13,578</a>	31st March 1851	John Peter Booth.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEARING APPAREL—continued.</b>			
<b>V.—Stockings, Mitts, Leather and other Gloves; Hosiery.</b>			
Manufacture of draped milled stockings - - -	221	29th July 1682	{ Francis Ammonett. Claude Hayes. Daniel Guthard.
Making silk mitts and silk gloves - - - -	839	6th Feb. 1766	{ William Martin. Ann Robinson.
Manufacture of hose gloves, and caps - - -	971	16th Nov. 1770	Peter Vallotton.
Machine for making knitted or knotted work for gloves of silk, thread, cotton, or worsted, either together or separate - - - -	991	25th June 1771	{ Richard March. William Horton.
Manufacturing double coarse frame-work stockings, mitts, gloves and caps, upon a stocking-frame, in gold, silver, silk, mohair, cotton, thread, worsted, or yarn - - - -	1098	22nd April 1775	{ Thomas Trentam. Francis Jones.
Preparing leather gloves with flowers, fruits, and vegetables, to prevent the chapping of the hands and arms.	1283	9th March 1781	Richard Warren.
Construction of gloves - - - - -	1474	30th April 1785	James Payton.
Machine for cutting out gloves, mitts, and muffs, and embellishing the same with ornaments in gold, silver, and colours.	1526	31st Jan. 1786	John Bull.
Manufacturing gloves without side-seams; also improvements in sewing or setting on the tops, and in other particulars.	1558	21st Aug. 1786	George Lingham, junior.
Making stockings, gloves, mitts, socks, caps, and other clothing, for persons afflicted with the gout, rheumatism, or other complaints requiring warmth; also making false or downy calves in stockings.	1670	22nd Sept. 1788	George Holland.
Manufacture of stockings, gloves, mitts, socks, caps, and other clothing where warmth is required.	1736	20th March 1790	George Holland.
Manufacturing hosiery and other articles for clothing and coverings.	1901	24th July 1792	George Holland.
Making and shaping stockings and pieces - - -	2858	14th June 1805	Robert Barber.
Machine for sewing and pointing leather gloves -	3012	20th Feb. 1807	James Winter.
Machine for finishing hose, socks, caps, mitts, and gloves - - - - -	3875	30th March 1813	{ Robert Hall. Samuel Hall.
Machine for sewing and pointing leather gloves -	4627	19th Dec. 1821	James Winter.
Machine for making from one piece of leather without seam or sewing, gloves and other things.	4923	20th March 1824	Jean Henry Petitpierre.
Making stockings and other goods usually made on the stocking-frame.	5373	23rd May 1826	Joseph Smith.
Machinery for manufacturing stockings - - -	6240	8th March 1832	{ Henry Warner. Charles Hood. Benjamin Abbott.
Manufacture of hosiery - - - - -	7608	4th April 1838	William Angus Robertson.
Improvements particularly applicable to the manufacture of gloves, stockings, and such like articles.	7686	14th June 1838	Joseph Winter.
Gloves, stockings, and other articles of hosiery [applying elastic bands of india-rubber web.]	7945	21st Jan. 1839	Caleb Bedells.
Producing ornamental or tambour work in the manufacture of gloves - - - - -	8948	4th May 1841	{ Edward Newton. Thomas Archbold.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEARING-APPAREL—continued.</b>			
Combinations of machinery to be employed for manufacturing parts of articles in stocking or lace fabrics.	9532	3rd Dec. 1842	John Stubbins.
Manufacture of hose, socks, drawers, gloves, mits, caps, comforters, and cuffs.	9554	15th Dec. 1842	Charles Keene.
Machinery for manufacture of stockings, gloves, and other frame-work knitted fabrics.	9576	29th Dec. 1842	Benjamin Bailey.
Manufacture of leather gloves - - - - -	9630	11th Feb. 1843	Thomas Ensor.
Construction and manufacture of gloves, mits, and cuffs, and fastenings for the same, applicable to articles of dress generally.	9698	19th April 1843	William Henry Smith.
Manufacture of gloves - - - - -	9732	16th May 1843	John Winter Walter.
Apparatus for cutting or shaping materials for making gloves.	9980	8th Dec. 1843	Christopher Nickels.
Manufacture of caps, stockings, gloves, and mits -	<a href="#">10,076</a>	24th Feb. 1844	Caleb Bedells.
Construction of legs of stockings and other articles of hosiery.	<a href="#">10,113</a>	19th March 1844	William Bates.
Cutting and making up gloves - - - - -	<a href="#">10,340</a>	3rd Oct. 1844	Samuel Pritchett.
Manufacture of gloves, stockings, and other hosiery goods [ <i>producing a nap or pile</i> ].	<a href="#">11,300</a>	18th July 1846	William Thurman.
Manufacture of gloves - - - - -	<a href="#">11,402</a>	8th Oct. 1846	Francis Nalder.
Manufacturing elastic stockings and other elastic bandages and fabrics.	<a href="#">12,294</a>	26th Oct. 1848	William Brown.
Manufacture of gloves and other articles of dress and furniture.	<a href="#">12,364</a>	9th Dec. 1848	Christopher Nickels.
Making gloves - - - - -	<a href="#">12,561</a>	3rd April 1849	Henry Dunington.
Manufacture of hosiery goods or articles composed of knitted fabrics.	<a href="#">12,854</a>	17th Nov. 1849	John Webster Hancock.
Laced stockings or bandages for the leg, or substitutes for the same.	<a href="#">13,787</a>	23rd Oct. 1851	Jonathan Sparks.
<b>VI.—Stays.</b>			
Making stays and corsets - - - - -	2112	31st May <a href="#">1796</a>	William Booth.
Stays for women and children - - - - -	2457	17th Dec. 1800	Martha Gibbon.
Long stays, short stays, and corsets - - - - -	2678	1st Feb. 1803	James Gayleard.
Elastic stays for women and children - - - - -	3894	14th March 1815	John Mills.
Stay for supporting the body under spinal weakness and correcting deformity of-shape.	4681	13th June 1822	Denny Gardner.
Stays or bodices [ <i>metallic eyelet-holes</i> ] - - - -	4766	18th March 1823	Thomas Rogers.
Substitutes for back-stays or braces [ <i>made elastic, for persons with contracted chests</i> ].	5243	18th Aug. 1825	Andrew Shoolbred.
Application of a cloth or fabric to the making of stays and other articles of dress.	5744	18th Dec. 1828	James Simister.
Stays or corsets and other parts of the dress where lacing is employed.	7640	14th May 1838	Jean François Isidore Caplin.
Construction of stays or corsets - - - - -	8091	4th June 1839	Joshua Procter West-head.
Apparatus for the support of the human body and correction of distortions of the spine [ <i>stays</i> ].	8400	25th Feb. 1840	Richard Kingdon.
Construction of stays and umbilical belts - - -	9841	13th July 1843	Ann Wise.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEARING-APPAREL—continued.</b>			
Fastenings for wearing-apparel ;—also applicable to the busks of ladies' stays.	9879	6th Sept. 1843	William Thomas.
Cooking and culinary utensils, and methods of heating and suspending or fastening articles of domestic use, and similar purposes [ <i>mode of fastening stays</i> ].	11,149	25th March 1846	Charles Smith.
Manufacture of stays and belts - - - -	11,834	5th Aug. 1847	James Simister.
Retaining the waist of the human body in a desirable form, without producing the inconvenience of tight lacing of stays or corsets, or buckling of belts, waistbands, or girdles.	11,861	9th Sept. 1847	Thomas Battye.
Construction of stays; machinery for manufacturing stays;—partly applicable to other species of weaving [ <i>wearing stay fabrics with strips of india-rubber introduced, also strands of whalebone; using knit fabrics for making stays</i> ].	11,925	26th Oct. 1847	William Thomas.
Manufacture of stays; fastening and connecting fabrics and garments.	12,321	26th July 1848	William Thomas.
Manufacture of stays and other parts of dress - -	12,736	9th Aug. 1849	{ William Thomas. John Marsh.
Elastic ribs sticks, strips, and fillets used in the manufacture of umbrellas, parasols, and various other articles, in substitution of whalebone and steel [ <i>making springs for corsets by using india-rubber combined with sulphur</i> ].	14,348	27th Nov. 1852	Moses Poole.
<b>VII.—Stocks, Shirt-fronts, Hoops, and Pockets.</b>			
Jointed hoops for convenience of ladies when entering coaches or chairs.	580	15th Dec. 1737	Jane Vanef.
Pocket to be used about the person or otherwise -	3527	25th Jan. 1812	John Brown.
Stocks, cravats, or stiffeners - - - -	7464	7th Nov. 1837	Thomas Hughes.
Manufacture of stocks and cravats - - - -	9544	8th Dec. 1842	William Kempson.
Pockets, bags, and other receptacles - - -	11,707	22nd May 1847	Henry John Nicoll.
Dress-fastenings; attaching the same; articles made wholly or in part of certain flexible materials or fabrics [ <i>making stiffeners for stocks and operetties, also wristbands, of a fabric formed in part of caoutchouc or gutta-percha</i> ].	12,120	12th April 1848	John Masters.
Manufacture of bag-fastenings - - - -	12,392	28th Dec. 1848	Moses Poole.
Manufacture of fronts of shirts - - - -	12,637	5th June 1849	Jacques Hulot.
Manufacture of stays and other parts of dress [ <i>making of horsehair, shapes for improving the figure; also a hoop for distending ladies' dresses</i> ]	12,736	9th Aug. 1849	{ William Thomas. John Marsh.
<b>VIII.—Military Accoutrements.</b>			
Construction of various articles of an officer's field equipage.	3759	23rd Nov. 1813	Frederick Cherry.
Necessaries or clothing for the military in general -	3871	4th Jan. 1815	Joseph Harries.
Knapsack, with a pouch suspended in front to counteract its weight.	3877	20th Jan. 1815	John Carpenter.
Construction of knapsacks - - - -	7250	9th Dec. 1836	Samuel Pratt.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEARING-APPAREL—continued.</b>			
Improvements in metallic tissues applicable to the making of epaulettes.	7785	30th Aug. 1838	Miles Berry.
Knapsacks - - - - -	7853	3rd Nov. 1838	James Berington.
Epaulettes and ornamental metallic wire fringes, and other ornamental articles or fabrics of wire.	7870	21st Feb. 1839	Moses Poole.
Forming a fabric applicable to various uses by combining caoutchouc or certain compounds thereof with wood, whalebone, or other fibrous materials manufactured for that purpose, or with metallic substances, manufactured or prepared [ <i>making military caps</i> ].	8382	8th Feb. 1840	James Hancock.
Soldiers' belts; facilitating the carrying of knapsacks.	<a href="#">11,493</a>	15th Dec. 1846	Jeremiah Campion.
Military accoutrements - - - - -	<a href="#">12,866</a>	20th June 1849	Charles James Coverly Griffin.
Helmets and other military accoutrements [ <i>arrangement of soldiers' belts</i> ].	<a href="#">14,029</a>	22nd March 1852	John Drumgoole Brady.
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<b>WEAVING, AND PREPARING FOR WEAVING.</b>			
<b>I.—Making Healds or Harness for Looms.</b>			
Making healds to be used in weaving cotton, silk, woollen, and other cloths [ <i>metal healds</i> ].	5044	29th Nov. 1824	John Osbaldeston.
Healds or harness for weaving purposes - - -	5318	16th Jan. 1826	John Rothwell.
Making healds for weaving purposes - - -	5623	6th March 1828	William Pownall.
Machinery for making healds - - - - -	6798	25th March 1835	{ James Berrie. David Anderson.
Method of making a metal heald or healds for the weaving of silk, woollen, worsted, cotton, or any other fibrous substance.	6958	16th Dec. 1835	John Osbaldeston.
Harness for weaving purposes; apparatus for making the same.	7200	4th Oct. 1836	Charles William Stone.
Manufacture of weavers' harness; machinery for production of the same.	<a href="#">11,617</a>	10th March 1847	Kasimir Vogel.
Machinery for weaving yarns [ <i>fixing healds in frames</i> ] - - - - -	<a href="#">12,535</a>	26th March 1849	{ John Mason. George Collier.
Manufacturing a certain part or parts of looms for weaving [ <i>making mails for loom-harness</i> ].	<a href="#">12,808</a>	14th May 1849	Samuel Allport.
Apparatus for weaving [ <i>making weavers' mails</i> ] -	<a href="#">12,796</a>	12th Oct. 1849	Charles Rowley.
Machinery for weaving cotton-wool and other fibrous substances [ <i>coating with metal the loops or eyes of healds</i> ].	<a href="#">12,882</a>	10th Dec. 1849	David Christie.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Looms for weaving [ <i>application of varnish to parts of healds</i> ] - - - - -	<a href="#">13,667</a>	17th June 1851	{ Thomas Crook. James Mason.
Machinery or apparatus for manufacturing weavers' healds or harness - - - - -	<a href="#">13,712</a>	7th Aug. 1851	{ Robert Hyde Greg. David Bowlas.
Healds or harness for looms for weaving; machinery for producing the same.	<a href="#">13,966</a>	12th Feb. 1852	William Edward Newton.
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<b>II.—Making Reeds for Weaving.</b>			
Making of whalebone reeds for weavers - - -	2985	30th Oct. 1806	Robert Bowman.
Application of machinery for manufacture of weavers' reeds by water and other power.	4182	23rd Aug. 1817	Jeptha Avery Wilkinson.
Application of machinery for manufacture of weavers' reeds by water and other power.	8691	7th Nov. 1840	Charles De Bergue.
Rollers and other machinery for flattening, preparing, and polishing wire for the construction of weaving-reeds.	<a href="#">10,782</a>	24th July 1845	Charles De Bergue.
New and improved woven fabric; machinery for producing the same [ <i>reeds</i> ].	<a href="#">11,454</a>	17th Nov. 1846	John Healey.
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<b>III.—Preparing Materials for Weaving.</b>			
Machine for making, drawing, sizing, and proportioning threads of silk, worsted, hemp, flax, gold or silver wire, or other materials; also for manufacturing, weaving, and making the same into pieces of silk, worsted, or linen cloth, either quite plain or ribbed, figured or flowered in imitation of tambour or embroidery work, the machine being contrived to prepare the threads and weave the cloth at one and the same time, or either operation separately.	1154	8th May 1777	Robert Barber.
Preparing cotton, sheeps' wool, and flax, for the loom; materials and necessary articles used in the manufacture of cotton, woollen, and linen cloths.	1198	11th Aug. 1778	Charles Lewis Mordaunt.
Preparing and manufacturing flax, hemp, silk, and other materials.	2469	3rd Feb. 1801	Alexander Afleck.
Preparing and manufacturing flax, hemp, silk, and other materials.	2607	8th April 1802	Alexander Afleck.
Preparing and manufacturing silk for weaving and other purposes.	4966	15th June 1824	John Heathcoat.
Preparing and working wool for making various fabrics.	6821	25th April 1835	Reuben Earnshaw.
Machinery for preparing certain threads or yarns -	7130	22nd June 1836	Hamer Stansfeld.
Preparing wool for manufacture of woollen cloths;—partly applicable to the weaving of other fabrics.	7681	12th June 1838	Benjamin Ledger Shaw.
Rendering certain textile or fibrous plants applicable to weaving into cloth, in place of flax, hemp, cotton, and other fibrous materials commonly used for such purpose [ <i>"the Stipa terracissima," a grassy plant growing on the coasts of the Mediterranean</i> ].	8273	19th Nov. 1839	Miles Berry.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Preparation of wool for the manufacture of woollen and other stuffs; process of obtaining the materials to be used for that purpose [ <i>using oleic acid for such purpose</i> ].	<b>8496</b>	7th May 1840	Bernard Aubé.
Preparing fibrous materials for weaving - - -	<b>9482</b>	29th Sept. 1842	John Ridsdale.
Preparation and manufacture of woven fabrics or tissues, applicable to various purposes [ <i>saturating threads with a composition of linseed oil, white-lead, charcoal, litharge, and salt, before being woven</i> ].	<b>10,330</b>	26th Sept. 1844	John Berkeley Cotter.
Preparation and manufacture of fibrous materials for the production of a fabric, in lieu of horsehair-seating and cloth [ <i>saturating or coating yarns with varnish or composition; dissolving hair for producing the varnish</i> ].	<b>10,591</b>	7th April 1845	Thomas Robinson Williams.
Preparation of materials employed in weaving -	<b>11,058</b>	15th April 1847	Peter Claussen.
Machinery, instrument, and processes for the preparation and manufacture of flax and other fibrous materials.	<b>12,515</b>	14th March 1849	Robert Plummer.
Preparation of materials to be used in the manufacture of textile fabrics.	<b>12,628</b>	2nd June 1849	Elijah Slack.
Manufacture of woven and twisted fabrics [ <i>coating yarns with heated gutta-percha, or gutta-percha mixed with other bodies</i> ].	<b>12,680</b>	29th June 1849	Thomas Beale Browne.
Preparation and manufacture of flax, hemp, and other like fibrous materials.	<b>12,855</b>	20th Nov. 1849	Charles Edouard François Constant Prospère De Changy.
Machines for preparing yarns for linen, woollen, and cotton cloths before entering the loom.	<b>12,945</b>	26th Jan. 1850	Winceslas le Baron De Traux De Wardin.
Manufacture of cotton and other fibrous materials, and fabrics composed of such materials [ <i>oiling wool</i> ] - - - - -	<b>13,313</b>	2nd Nov. 1850	{ John Tatham. David Cheetham.
Preparation of yarns or threads for weaving - - -	<b>13,643</b>	27th May 1851	John Harrison.
Preparing and weaving cotton - - - - -	<b>13,629</b>	22nd Nov. 1851	Jean Baptiste Chalmin.
Preparation of wool for manufacture of woollen and other fabrics; process of obtaining materials for that purpose [ <i>using oleic acid for lubricating wool</i> ] - - - - -	<b>13,907</b>	22nd Jan. 1852	{ James Pillans Wilson. George Fergusson Wilson.
Machinery or apparatus for preparing woollen threads and other filamentous substances for weaving.	<b>13,953</b>	3rd Feb. 1852	Emmanuel Charles Theodore Crouelle.
Manufacture of cloths; preparation of wool for the manufacture of woollen and other fabrics; preparation of materials to be used for the purpose [ <i>purifying and using oleic acid; applying distilled oleic acid combined with alkali, in place of soap</i> ].	<b>14,294</b>	18th Sept. 1852	James Pillans Wilson.
<b>IV.—Sizing, dressing, and drying Yarns and Warps.</b>			
Kilns for drying flax and yarn with sea-coal, turf, or peat.	<b>102</b>	7th Feb. 1637	Thomas Earl of Berks.
Machinery for sizing and dressing wool, tow, hemp, flax, and cotton.	<b>1696</b>	3rd Aug. 1789	Edmund Cartwright.
Mode of and apparatus for stiffening cotton twist or weft.	<b>2003</b>	29th July 1794	James Travis.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Starching and preparing cotton yarn in cop - - -	2377	19th Feb. 1800	Robert Stuart.
Method of drying yarns of linen, cotton, or silk, or composed of all or any or either of these articles.	2567	2nd Jan. 1802	Alexander Bryce.
Preparing and dressing cotton warp - - -	2684	28th Feb. 1803	Thomas Johnson.
Certain addition and improved method applicable to the dressing of cotton warp;—applicable also to the dressing of linen, silk, and woollen warps.	2771	2nd June 1804	Thomas Johnson.
Sizing cotton yarn - - - - -	2869	19th July 1805	Peter Marsland.
Dressing yarns for weaving, by means of a machine	2924	26th March 1806	Quintin M'Adam.
Machine for dressing, stiffening, and drying cotton, linen, and other warps at the time the loom is working, either with the motion of the loom or other machinery.	4964	25th May 1824	Joseph Wells.
Preparation of warps for power-loom [sizing, drying, and dressing or making them ready for the loom].	4991	27th July 1824	Thomas Wolrich Stansfeld.
Dressing and preparing woollen yarns - - -	5806	15th Jan. 1828	George Daniel Harris.
Machinery for dressing hemp, flax, silk, and other fibrous substances - - - - -	5715	9th Oct. 1828	{ Samuel Lawson. Mark Walker.
Expressing liquids or moisture from wool, cotton, or other substances in a manufactured or unmanufactured state.	7567	16th Feb. 1838	Johann Gottlob Seyrig.
Application of heat for the purpose of drying wool, woollen yarns, and other articles.	7808	13th Sept. 1838	James Wapshare.
Machinery for drying cotton, woollen, and other fibrous substances.	8081	25th May 1839	Benjamin Hick.
Machinery for sizing and otherwise preparing cotton-wool, flax and other warps, for weaving -	8226	26th Sept. 1839	{ William Henry Hornby. William Kenworthy.
Looms for weaving, to be worked by steam or other power [dressing warps in the process of weaving].	8263	7th Nov. 1839	John Thomas Laurente Lamy Godard.
Sizing, starching, dressing, and preparing warps for weaving fabrics; machinery and apparatus connected therewith.	8424	11th March 1840	William Forrester.
Dressing yarns of linen or cotton, or both, to be woven into various sorts of cloth.	8700	12th Nov. 1840	John Heaton.
Drying wool, cotton, and other fibrous materials in the manufactured and unmanufactured state.	8936	27th April 1841	Thomas Robinson.
Machinery and apparatus for dressing cotton, silk, flax, wool, and other fibrous substances.	9032	21st July 1841	John M'Bride.
Dressing cotton and other fibrous substances, also textile and other fabrics.	9194	21st Dec. 1841	Henry Hough Watson.
Process of preparing or dressing yarns or warps for weaving.	9255	15th Feb. 1842	James Andrew.
Sizing warps - - - - -	9482	29th Sept. 1842	John Ridsdale.
Machinery or apparatus for drying or freeing from liquid or moisture, woollen, cotton, silk, and different fibrous materials and substances, and also for stretching certain fibrous materials - -	9652	2nd March 1843	{ John Keely, junior. Alexander Alliott.
Preparing and dressing yarns for weaving - -	9844	15th July 1843	William Garnett Taylor.
Preparing, sizing, dressing, and drying yarns of wool, flax, cotton, silk, and other fibrous materials.	10,231	19th June 1844	William Sutcliffe.
Sizing and dressing yarns; machinery for performing the same.	11,595	24th Feb. 1847	William Todd.
Drying wool, alpaca, mohair, cotton, and other fibrous substances.	11,803	19th July 1847	James Whitley.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Machinery for preparing and dressing yarns - - -	<a href="#">11,814</a>	24th July 1847	{ John Platt. Thomas Palmer.
Materials and processes employed in dressing and clearing materials of which textile fabrics are composed.	<a href="#">11,827</a>	31st July 1847	Hector Sandeman.
Apparatus for clearing and steaming animal or vegetable fibrous substances.	<a href="#">12,461</a>	8th Feb. 1849	Joseph Barnes.
Preparation of yarns or threads [ <i>different combinations of scouring, sizing, and dressing apparatus</i> ] - }	<a href="#">12,535</a>	26th March 1849	{ John Mason. George Collier.
Machine for sizing warps - - - - -	<a href="#">12,565</a>	16th April 1849	{ Thomas Cocksey. James Nightingale.
Preparation of materials to be used in the manufacture of textile fabrics [ <i>scouring, boiling, and bleaching hemp, flax, and similar materials</i> ].	<a href="#">12,628</a>	2nd June 1849	Elijah Slack.
Machinery for dressing flax, cotton, silk, and other fibrous substances.	<a href="#">12,693</a>	4th July 1849	John Combe.
Manufacture of textile fabrics; preparation of yarns or threads for weaving [ <i>sizing or dressing yarns</i> ].	<a href="#">13,643</a>	27th May 1851	John Harrison.
Preparing and weaving cotton [ <i>sizing yarn, and a solution for the purpose</i> ].	<a href="#">13,829</a>	22nd Nov. 1851	Jean Baptiste Chalmrin.
Machinery or apparatus for preparing woollen threads and other filamentous substances for weaving [ <i>combining machinery for dressing warps</i> ].	<a href="#">13,953</a>	3rd Feb. 1852	Emmanuel Charles Theodore Croutelle.
<b>V.—Warping;—beaming Warps.</b>			
Machine which by being connected with a weaving-loom may be applied to warping - - - - }	1083	20th Oct. 1774	{ Robert Barber. Thomas Barber.
Making warps with silk selvages for velverets and other kinds of cotton goods with cotton prepared in a peculiar manner, and by means whereof the said goods can be made of much greater breadth than ordinary.	1106	16th Nov. 1775	Richard Clough.
Machine for making, drawing, and proportioning threads of silk, worsted, hemp, flax, gold or silver wire, or other materials, which may be worked by any adequate power, and so contrived that it may also be employed for weaving and making such materials into piece-goods at the same time.	1154	8th May 1777	Robert Barber.
Laying a number of threads in order to make several pieces or breadths of work on the same stocking-frame at the same time; also an engine fixed to a common stocking-frame for a similar purpose.	1348	19th Dec. 1782	John Hayne.
Loom for warping, dressing, weaving, and piecing silk, cotton, woollen, or any other yarn.	2353	4th Nov. 1799	Thomas Foden.
Self-regulating apparatus for spooling and warping woollen or other warps or chains.	4666	16th April 1822	William Pride.
Preparing, cleaning, dressing, and beaming silk warps; applicable to beaming other warps.	4817	24th July 1823	William Harwood Horrocks.
Preparation of warps for power-looms - - - -	4991	27th July 1824	Thomas Wolrich Stansfeld.
Processes and apparatus for preparing, beaming, &c., yarns of cotton, linen, silk, woollen, and other fibrous substances, so that any design, device, or figure printed on such yarn may be preserved when the same is woven into cloth or other fabric.	6066	22nd Jan. 1831	Louis Schwabe.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Process of preparing certain descriptions of warps for the loom.	7466	9th Nov. 1837	John Potter.
Preparing woollen and other warps - - -	7470	14th Nov. 1837	{ David Shaw. Benjamin Ledger Shaw.
Machinery or apparatus for warping worsted, linen, cotton, silk, or woollen yarns.	7558	30th Jan. 1838	David Wilkinson Sharp.
Preparing yarn or thread by machinery, suitable for } warps in preparation for weaving in looms - - }	7628	28th April 1838	{ John Paterson Reid. Thomas Johnson.
Improvements applicable to warping and dressing yarns of cotton.	8763	31st Dec. 1840	Francis Burdett Whitaker.
Weaving cotton, silk, wool, and other fibrous substances; machines and instruments for the purpose [beaming warps wet, and drying them in a steam chest].	8798	19th Jan. 1841	James Smith.
Machinery for twisting, spooling, and warping woollens.	8860	2nd March 1841	George England.
Machinery or apparatus called beaming or warping machines.	8860	11th March 1843	William Kenworthy.
Means of warping and weaving plain and figured fabrics [weighting bobbins during the warping operation].	<a href="#">12,292</a>	19th Oct. 1848	Robert William Sievier.
Machinery or apparatus for warping and beaming yarns or threads composed of silk or other fibrous materials.	<a href="#">12,379</a>	21st Dec. 1848	Thomas Dickins.
Preparation of yarns or threads [different combinations of scouring, sizing, dressing, and warping apparatus] - - - - -	<a href="#">12,535</a>	26th March 1849	{ John Mason. George Collier.
Machines for preparing yarns for linen, woollen, and cotton cloths before entering the loom [warping-machines, and machines for winding on warps].	<a href="#">12,945</a>	26th Jan. 1850	Wincelas le Baron De Traux De Wardin.
Method of and machinery for preparing warps for } weaving [warping and drying dressed warps] - }	<a href="#">12,978</a>	21st Feb. 1850	{ Charles Andrew. Richard Markland.
Machinery for preparing, balling, and winding } warps or yarns - - - - - }	<a href="#">12,997</a>	7th March 1850	{ John Tayler. Richard Hurst.
Apparatus and machinery for warping worsted, } cotton, and other fibrous materials - - - }	<a href="#">13,002</a>	11th March 1850	{ Richard Holdsworth. William Holgate.
Manufacture of carpets and other fabrics [beaming or } warping printed yarns for making carpets] - - }	<a href="#">13,402</a>	12th Dec. 1850	{ Joseph Baldwin. George Collier.
<b>VI.—Weaving Yarns and Cloths;—Looms.</b>			
Making camlets after the Turkish manner - - -	<a href="#">17</a>	15th July 1620	{ Samuel Sharpe. Richard Wilton.
Making buckram and tillett - - - - -	<a href="#">106</a>	18th May 1637	Samuel Mason.
Making dolberline to be used for dresses at the burial of the dead.	<a href="#">204</a>	4th Oct. <a href="#">1678</a>	Amy Potter.
Engine for weaving without the aid of a draw-boy -	<a href="#">257</a>	3rd Oct. 1687	Joseph Mason.
Making black plain silks, such as alamodes, ran- } forsees, and lustrings - - - - - }	<a href="#">261</a>	4th Nov. 1688	{ Paul Clowdesley. William Sherrard. Peter Duclen.
Making calicoes, muslins, and other fine cloth out of West Indian cotton-wool.	<a href="#">278</a>	22nd Sept. 1691	John Barkstead.
Making black silk crape and white silk crape - -	<a href="#">357</a>	2nd Sept. 1698	Francis Pousset.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Working and weaving flax, hemp, and hair - -	508	19th April 1729	Martin Bedwell.
Manufacturing silk mourning crapes known as } valle-cypre or Bologna crapes - - - - }	520	9th Oct. 1730	{ John Gastinean. William Mons.
Machine for manufacturing woollen cloth - -	591	7th July 1743	Richard Brooks.
Making goods of the same kind and equal to } Lutherines, rufferines, Prince's stuffs or prunellos, by mixing a certain material with silk, instead of mohair yarn.	611	15th Dec. 1744	George Garrett.
Manufacturing brocades and tissues of gold, silver, and silk, or silk only.	652	6th Feb. 1750	John Batcheler.
Method of weaving cloth in imitation of women's stitched stays, either of linen, thread, silk, or worsted.	772	21st May 1762	George Glasgow.
Method of weaving and quilting in the loom cloth } of linen, woollen, silk, worsted, cotton, and mohair, either separately or mixed - - - }	786	9th March 1763	{ Robert Elsdon. George Glasgow.
Making a fine thin and light cloth of silk and wool, with the appearance of superfine Spanish cloth and superfine Irish ratteen.	823	29th Jan. 1765	Richard Williams.
Fabric made of silk and worsted, for lining gentle- } men's clothes, and for other uses; "Soyclainet" }	832	28th June 1765	{ Thomas Lawrence. John Timmings.
Making thin superfine cloths - - - -	858	26th Aug. 1766	Francis Yerbury.
Manufacturing a silk stuff equal in quality to } Italian crape or tiffany - - - - }	912	21st Dec. 1768	{ James Crookshank. William Norton.
Making baize for the Spanish and Portuguese trades, } to imitate French baize - - - - }	937	7th Nov. 1769	{ John Baker. Joseph De Mages. John Cook.
Manufacturing goods with cotton weft on woollen, linen, or cotton warps.	1024	15th Oct. 1772	Richard Williams.
Manufacture of stuff or cloth made of hemp, linen, or cotton yarn, of different colours and variously figured and striped, named in Italy rensetti, rigati, rasati, spinati, and operati, suitable for summer clothing or for furniture; "Rensetty."	1038	1st April 1773	Francis Hayward.
Machine which by being connected with a wea- } ving-loom may be applied to working and weaving various patterns - - - - }	1083	20th Oct. 1774	{ Robert Barber. Thomas Barber.
Machine for making, drawing, sizing, and propor- tioning threads of silk, worsted, hemp, flax, and other materials, and for weaving the same, plain or figured, at the same time or separately.	1154	8th May 1777	Robert Barber.
Machine for weaving silk, thread, cotton, worsted, also woollen and all other kinds of yarns.	1265	22nd Sept. 1780	William Betts.
Making bolting-cloths for dressing flour - -	1412	19th Dec. 1783	Benjamin Blackmore.
Manufacturing stuffs called "Prince's everlasting union," and which stuffs may be either plain, pearled, striped, figured, cut, or uncut.	1437	19th June 1784	Joshua Bennett.
Machine for weaving [by power] - - - -	1470	4th April 1785	Edmund Cartwright.
Machine for weaving - - - -	1566	30th Oct. 1786	Edmund Cartwright.
Manufacturing silk and mohair, either sepa- rately or jointly with other materials which have never before been combined or manufactured together.	1569	7th Nov. 1786	Robert Phipps.
Machine for weaving [improvements on patents Nos. 1470—1565].	1616	1st Aug. 1787	Edmund Cartwright.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Bed-ticking made of materials never before used for that purpose, much more durable than any hitherto used, and which has the peculiar advantage of preventing the feathers or dust from penetrating or escaping through it.	1838	19th Jan. 1788	Edmund Harvey.
Machine or engine for weaving cotton, worsted, flax, hemp, or any species of yarn, into calicoes, cloths, buntings, and any other articles of any fabric whatsoever.	1875	8th Nov. 1788	Thomas Clark, junior.
Machine for weaving [improvements on patents Nos. 1470, 1565, 1616].	1876	13th Nov. 1788	Edmund Cartwright.
Manufacture of blankets, &c. - - - -	1738	20th March 1790	George Holland.
Loom or machine to weave woollen, linen, worsted, cotton, and silk goods, and which will work one or more pieces at the same time, by hand, steam-engine, or water-machinery.	1804	11th May 1791	Richard Gorton.
Machine or engine for the purpose of weaving in a manner entirely new, and with much less labour and expense than is now practised.	1809	28th May 1791	Stephen Dolignon.
Weaving engine or machine; rendering the same capable of being worked by or connected with wind, water, steam, fire, or air engines, also with engines worked by horse or any other power; and improvements on the engine or machine where manual labour only is applied.	1860	15th March 1792	Sutton Thomas Wood.
Improvements upon and additions to machinery already invented for manufacturing and fabricating wool, hemp, flax, silk, hair, and cotton into yarn and twist, and until perfected in the loom.	1876	15th May 1792	Edmund Cartwright.
Improvements applicable to the manufacture of sail-cloth and several other things - - - - }	2034	19th Jan. 1795	{ William Sellars. Peter Standage.
Double-beating and graduating loom for weaving -	2067	28th Sept. 1795	Thomas Holland.
Looms worked by water, steam, horse, or other power, for weaving linen, cotton, woollen, and other cloths.	2122	28th July 1796	Robert Miller.
Loom for warping, dressing, weaving, and piecing silk, cotton, woollen, or any other yarn.	2353	4th Nov. 1799	Thomas Foden.
Making and manufacturing certain cloth for general uses and purposes [by using yarns spun from fur].	2366	20th Dec. 1799	William Loosemore.
Manufacturing cloth, the warp whereof is composed of silk, cotton, woollen, worsted, or linen yarn, and the weft of sheep's wool or lamb's wool }	2417	20th June 1800	{ Robert Fryer. James Bennett.
Manufacturing flax, hemp, silk, and other materials	2469	3rd Feb. 1801	{ Thomas Parker. William Telfer. Alexander Afleck.
Manufacturing woollen cloth - - - -	2582	19th Feb. 1802	Joseph Nelson.
Manufacturing flax, hemp, silk, and other materials	2607	8th April 1802	{ Thomas Parker. William Telfer. Alexander Afleck.
Trimmings and borders of muslins, lawn, and cambric.	2663	27th Nov. 1802	Marc Isambard Brunel.
Manufacture of bagging for packing of nails, and for other purposes [from kurds and junk].	2686	28th Feb. 1803	Benjamin Haden.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Weaving and manufacturing woollen, cotton, linen, silk, and worsted cloths or stuffs; also improvements on and additions to machines used in weaving by means of looms wrought by water, steam-engines, horses, or any other power.	2698	14th April 1803	John Todd.
Looms for weaving cotton and other goods by steam or water.	2699	20th April 1803	William Horrocks.
Looms - - - - -	2701	27th April 1803	James Hall.
Manufacturing an article having the appearance of velvet; "Salisbury Angola moleskin" [with two warps on separate beams,—one warp woollen, the other cotton, silk, mohair, or worsted].	2717	28th June 1803	Joseph Everett.
Loom with a method of perpetually taking away the articles woven therein as they are woven.	2728	3rd Aug. 1803	James Hall.
Making canvas or strong cloth of vegetable materials, for sails, tents, packages, and other purposes [by using twine for warp or weft].	2733	30th Aug. 1803	Cathcart Dempster.
Making sailcloth with single or double thread warp, without starch or any substitute for stiffening, and without the double threads being twisted together.	2785	21st Sept. 1804	Michael Scarth.
Machine for weaving cotton and other goods by hand, steam, water, or other power.	2848	14th May 1805	William Horrocks.
Loom for weaving cotton and other goods by power	2876	9th Aug. 1805	{ Thomas Johnson. James Kay.
Species of cloths, fustians, calicoes, cambrics, lawns, striped cottons, and other articles manufactured with cotton-wool and flax mixed and spun together.	2901	17th Dec. 1805	Joseph Steel.
Manufacture of piece-goods composed of cotton, flax, hemp, or a mixture of any two of them, so as to resist the rotting action of wet or moisture.	2913	8th March 1806	Patrick Whytock.
Method of weaving cotton, linen, silk, woollen, worsted, and mohair, and each or any of them, by machinery.	2955	1st Aug. 1806	Peter Marsland.
Making of whalebone a cloth for webbing, fit for making hats, caps, &c., and for the backs and seats of chairs, sofas, gigs, and other similar carriages, and for the bottoms of beds [weaving].	2985	30th Oct. 1806	Robert Bowman.
Weaving cotton, silk, woollen, worsted, and mohair, separately or together, by looms [weaving two pieces of cloth at the same time].	2992	4th Dec. 1806	Samuel Williamson.
Machine for weaving yarn - - - - -	3023	23rd March 1807	Thomas Johnson.
Manufacture of a fabric composed of flax and cotton, which is applicable to many useful purposes [flax and cotton spun together].	3144	23rd June 1808	George Lowe.
Manufacture of kerseymere and broad cloths - - -	3290	20th Dec. 1809	Charles Frederick Davies.
Method of regulating the texture of all kinds of cloth in the process of weaving.	3291	15th Jan. 1810	William Cotton.
Manufacture of woollen cloth - - - - -	3327	6th April 1810	Charles Frederick Davies.
Making canvas for military and other purposes [with flax warp and woollen weft, the canvas to be singed after weaving].	3647	4th Feb. 1813	William Broughton.
Making double canvas and sailcloth with hemp and flax, or either of them, without starch.	3652	13th April 1813	Robert Champion.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Manufacture of ribbed and plain kerseymeres and milled cloths, from mixtures of animal and vegetable wool prepared and spun into yarn, without oil - - - - -	3684	28th April 1813	{ Richard Coupland. Frederick Coupland.
Manufacturing cotton-wool, free from mixture, into cloth for the purpose of regulating perspiration.	3717	14th July 1813	John Millard.
Machine for weaving cotton and other goods by hand, steam, water, or other power.	3728	31st July 1813	William Horrocks.
Manufacturing English crapes from silk dyed and coloured either in a raw state or after being thrown or spun; introducing, weaving, or working into the warp and weft of such crapes, black, white, coloured, and fancy silk, cotton, and worsted, also gold and silver or other plain or fancy materials.	3785	12th March 1814	Daniel Goodall.
Looms to be used in weaving cotton, worsted, silk, or other cloth, or cloth made of any two or more of the said materials - - - - -	3842	23rd Sept. 1814	{ Joseph Taylor. Peter Taylor.
Loom to be used in weaving cotton, worsted, silk, or other cloth, or cloth made of any two or more of the said materials - - - - -	3880	4th Feb. 1815	{ Joseph Taylor. Peter Taylor.
Working or making certain manufactures from plants of the genus <i>Urtica</i> and <i>Asclepius</i> , growing in North America, in place of the fabrics usually obtained from hemp, flax, cotton, silk, and other like fibrous materials.	3925	14th June 1815	Charles Whitlow.
Making a peculiar species of canvas for military and other purposes [ <i>flax warp, flax, and woollen weft</i> ].	3962	5th Dec. 1815	George Young.
Combination of materials to produce an article resembling bombazine [ <i>cotton warp and worsted weft, with twilled worsted face</i> ].	4271	10th June 1818	George Atkinson.
Construction of looms for weaving various sorts of cloth, which machines may be set in motion by any adequate powers.	4488	20th July 1820	Robert Bowman.
Manufacture of crape [ <i>disposing the warp threads of the silk in weaving</i> ].	4614	13th Nov. 1821	Joseph Grout.
Construction of power-looms for weaving cotton or linen cloth [ <i>with an apparatus for wetting the warp and weft</i> ].	4626	14th Dec. 1821	William Horrocks.
Looms [ <i>engine-looms with two sets of shuttles</i> ] -	4703	27th Sept. 1822	William Goodman.
Manufacture of worsted [ <i>weaving British crape</i> ] -	4714	18th Oct. 1822	Stephen Wilson.
Making a fabric of silk and worsted [ <i>crape with satin stripes</i> ].	4776	12th April 1823	John Francis.
Construction of looms for weaving fabrics composed wholly or partly of woollen, worsted, cotton, linen, silk, or other materials; machinery and implements for and method of working the same - - - - -	4810	5th July 1823	{ Thomas Wolrich Stansfeld. Henry Briggs. William Richard. William Barraclough.
Construction of weaving-looms impelled by machinery.	4854	16th Oct. 1823	Archibald Buchanan.
Manufacture of a fabric named "British cashmere"	4933	7th April 1824	Jonathan Schofield.
Weaving woollen cloth [ <i>by power loom</i> ] - - -	4987	7th July 1824	Joseph Clisild Daniell.
Power-looms - - - - -	4991	27th July 1824	Thomas Wolrich Stansfeld.
Power-looms for weaving various articles [ <i>weaving two pieces one above the other</i> ].	5020	14th Oct. 1824	James Tetlow.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Construction of looms or machinery for weaving various sorts of cloths or fabrics.	5058	18th Dec. 1824	Pierre Jean Baptiste Victor Gosset.
Looms for making cloths, silks, and different kinds of woven stuffs of various breadths - - - }	5134	25th March 1825	{ John Martin Hanchett. Joseph Delvalle.
Power loom for weaving silk, cotton, linen, wool, flax, and hemp, and mixtures thereof.	5177	31st May 1825	John Harvey Sadler.
Construction of looms for weaving woollen cloths -	5210	16th July 1825	{ Henry Hirst. George Bradley.
Looms and implements connected therewith - -	5211	16th July 1825	{ Thomas Wolrich Stansfeld. William Prichard. Samuel Wilkinson.
Machinery applicable to weaving woollen cloth [power-looms].	5286	13th Oct. 1825	Joseph Clisild Daniell.
Working, weaving, or preparing silk and other fibrous materials used in making hats, bonnets, shawls, and other articles - - - }	5292	17th Nov. 1825	{ Edward Bowring. Robert Stamp.
Method of preparing, forming, uniting, combining, or putting together, a certain material, substance, or thing, for the purpose of being made into hats, caps, bonnets, cloaks, coats, trousers, and for wearing-apparel in general [making a cloth with linen or other fibrous materials as warp and strips of cork as weft] - - - }	5347	18th April 1826	{ James Rowbotham. Robert Lloyd.
New kind of piece-goods formed by the combination of threads of two or more colours, the manner of combining and displaying such colours constituting the novelty thereof [using speckled threads produced by twisting together two or more yarns of different colours] - - - }	5369	23rd May 1826	{ William Henry Gibbs. Abraham Dixon.
Power-looms for weaving cloth of various kinds -	5482	4th April 1827	John Paterson Reid.
Weaving-machinery - - - - -	5487	24th April 1827	Carlo Ghigo.
Power-looms for weaving - - - - -	5581	10th Nov. 1827	William Collier.
Power-looms for weaving silk, cotton, linen, wool, flax, and hemp, and all mixtures thereof.	5581	13th Dec. 1827	John Harvey Sadler.
Looms for weaving woollen, linen, cotton, silk, and other cloths.	5627	13th March 1828	George Scholefield.
Manufacturing and preparing woollen cloth - -	5679	5th Aug. 1828	Joseph Clisild Daniell.
Weaving and preparing cloth - - - - -	5687	19th Aug. 1828	Edward Barnard.
Weaving, preparing, or manufacturing a cloth or fabric, and the application thereof to the making of stays and other articles of dress [stay-cloth of double web, fastened at intervals in the weaving instead of by needlework, and applicable for making bags and purses].	5744	18th Dec. 1828	James Simister.
Power-looms for weaving cloth - - - - -	5813	8th July 1829	William Ramsbottom.
Manufacture of canvas and other fabrics from substances hitherto unused for that purpose [from silk-grass, saturated with a bituminous and gummy material].	5846	15th Sept. 1829	George Harris.
Power-loom applicable to the weaving of yarn and other materials.	5899	6th Feb. 1830	Thomas Robinson Williams.
Manufacturing woollen cloth - - - - -	5907	27th Feb. 1830	Henry Hirst.
Manufacture of canvas and sailcloth for making sails [weaving] - - - - -	5916	20th March 1830	{ James Ramsay. Andrew Ramsay. Matthew Orr.



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<b>WEAVING, &amp;c.—continued.</b>			
Looms [ <i>connecting two looms to be worked by one person</i> ].	5951	1st July 1830	John Harvey Sadler.
Processes and apparatus for weaving printed yarns of cotton, silk, woollen, and other fibrous substances, so that any design, device, or figure printed on such yarn may be preserved when woven into cloth or other fabric.	6066	22nd Jan. 1831	Louis Schwabe.
Cloth for the sails of ships and other vessels [ <i>woven from threads of ox and cow hair and afterwards felted</i> ].	6330	8th Nov. 1832	William Wilkinson Taylor.
Looms or machines for weaving cotton, linen, silk, woollen, and other fibrous cloths and substances.	6358	9th Jan. 1833	William Thomas Shallcross.
Power-looms - - - - -	6414	30th April 1833	Archibald Douglass.
Improvements applicable to looms for weaving different sorts of cloth [ <i>weaving four webs at once in the same loom</i> ] - - - - -	6579	20th March 1834	{ John Paterson Reid. Thomas Johnson.
Weaving-machinery - - - - -	6613	24th May 1834	{ Luke Smith. John Smith.
Power-looms to be used in weaving cotton, linen, silk, woollen, and other cloths - - - - -	6619	27th May 1834	{ William Henry Hornby. William Kenworthy.
Construction of power-looms; manufacture of certain kinds of corded fustian or fabric to be woven in diagonal cords, from cotton-wool and other fibrous substances - - - - -	6628	16th June 1834	{ Joseph Jones. Thomas Mellodew.
Construction of power-looms for weaving cotton and other fibrous materials into cloth or other fabrics [ <i>weaving two pieces at once</i> ] - - - - -	6644	12th July 1834	{ John Ramsbottom. Richard Holt.
Construction of looms for weaving by hand or power [ <i>weaving two pieces at once</i> ] - - - - -	6657	12th Aug. 1834	{ Andrew Hall. John Slack, junior.
Looms or machinery for weaving fabrics - - - - -	6696	17th Oct. 1834	Claude Marie Hilaire Molinard.
Power and other looms; weaving silk, hempen, cotton, woollen, and other cloth.	6704	23rd Oct. 1834	Amasa Stone.
Hand and power looms - - - - -	6869	28th July 1835	Spole Rosenborgh Anderson.
Hand-looms and power-looms [ <i>weaving two pieces at one time</i> ].	6900	1st Oct. 1835	James Bullough.
Looms for weaving by hand or other power - - - - -	6902	8th Oct. 1835	{ Appelles Howard. John Scattergood.
Power-looms for weaving [ <i>silk, cotton, flax, or woollen warps,—and bristles, horsehair, whalebone, reeds, straw, or cane, as wefts</i> ].	6944	5th Dec. 1835	Miles Berry.
Weaving or manufacturing divers goods and wares; machinery applicable thereto.	6967	23rd Dec. 1835	John Heathcoat.
Power-looms - - - - -	6986	21st Jan. 1836	{ John Ferrabee. Richard Clyburn.
Machinery for weaving certain fabrics - - - - -	7130	22nd June 1836	Hamer Stansfeld.
Manufacture of woollen cloths - - - - -	7198	4th Oct. 1836	John Ledyard Phillips.
Machinery for manufacturing woollen and some other cloths.	7327	21st March 1837	James Walton.
Looms for weaving [ <i>weaving knotted counterpanes and similar fabrics</i> ].	7339	11th April 1837	Joseph Lincoln Roberts.
Power-looms - - - - -	7533	11th Jan. 1838	{ Charles Fitton. George Collier.



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<b>WEAVING, &amp;c.—continued.</b>			
Manufacture of woollen cloth [loom] - - -	7565	8th Feb. 1838	James Dutton.
Construction of looms for weaving [woollen cloth] -	7583	5th March 1838	Charles Fletcher.
Manufacture of blankets and other fabrics [employing a thread composed partly of fur and partly of other fibrous material, or a thread of New Zealand flax mixed with other materials].	7606	4th April 1838	William Angus Robertson.
Looms for weaving various kinds of cloth - -	7642	15th May 1838	Thomas Mellodew.
Manufacture of woollen cloths;—partly applicable to the weaving of other fabrics.	7681	12th June 1838	Benjamin Ledger Shaw.
Improvements applicable to power and hand looms -	7806	13th Sept. 1838	Edwin Bottomley.
Looms for weaving; also a new description of fabric to be produced or woven therein [satins] - - }	7876	20th Nov. 1838	{ William Thorp. Thomas Meakin.
Method of weaving woollen cloths, and cloths made of wool together with other materials.	7927	9th Jan. 1839	Joseph Clisild Daniell.
Cloth constructed from cocoa-nut fibre; preparing such fibrous material for the same and other purposes.	7934	11th Jan. 1839	Robert Logan.
Weaving linen and other fabrics - - - -	7966	11th Feb. 1839	Edward Pearson Tee.
Machinery for weaving single, double, and treble } cloths - - - - - }	8057	7th May 1839	{ David Naylor. John Crighton, junior.
Looms for weaving - - - - -	8116	19th June 1839	Peter Lomax.
Looms for weaving various kinds of cloth - -	8198	17th Aug. 1839	{ Joseph Schofield. Edmund Leach.
Construction of looms for weaving; application of the same to produce certain descriptions of goods and fabrics by steam or other power.	8260	7th Nov. 1839	Thomas Yates.
Looms for weaving, to be worked by steam or other power.	8283	7th Nov. 1839	John Thomas Laurente Lamy Godard.
Machinery for weaving single, double, and treble } cloths - - - - - }	8317	16th Dec. 1839	{ David Naylor. John Crighton, <u>junior</u> .
Construction of looms for weaving or producing a new or improved manufacture of fabrics; arrangement of machinery to produce other descriptions of woven goods or fabrics [for quiltings and knotted counterpanes] - - - - }	8375	5th Feb. 1840	{ Thomas Myerscough. William Sykes.
Looms for weaving - - - - -	8380	8th Feb. 1840	Amand Deplanque.
Machinery or apparatus for weaving - - - -	8655	7th Oct. 1840	John Davies.
Looms for weaving linen and other fabrics, to be worked by hand, steam, water, or other power.	8664	22nd Oct. 1840	Charles Parker.
Machinery for making or producing certain fabrics with threads or yarns, applicable to various useful purposes.	8708	19th Nov. 1840	William Henson.
Looms for weaving [counterpanes and quilts] - -	8774	6th Jan. 1841	William Newton.
Machinery or apparatus for weaving - - - -	8790	14th Jan. 1841	{ William Kenworthy. James Bullough.
Weaving cotton, silk, wool, and other fibrous substances; machines and instruments for the purpose.	8798	19th Jan. 1841	James Smith.
Looms for weaving - - - - -	8808	21st Jan. 1841	{ William Hill Darker, sen. William Hill Darker, jun. William Wood.
Combination of materials for umbrella and parasol cloths.	8821	30th Jan. 1841	James MacLellan.

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<b>WEAVING, &amp;c.—continued.</b>			
Machinery for weaving woollen and other fabrics; manufacture of woollen doeskins.	8860	2nd March 1841	George England.
Looms for weaving - - - - -	8913	3rd April 1841	{ James Ogden. Joseph Grundy Woollam.
Manufacturing cloth and other fabrics from woollen, cotton, flax, silk, and other substances.	8915	3rd April 1841	Zachariah Bryant.
Weaving - - - - -	8929	22nd April 1841	Joseph Bentham.
Looms for weaving - - - - -	8933	22nd April 1841	{ John Rostron. Thomas Welch.
Looms for weaving - - - - -	8954	10th May 1841	John Paley, junior.
Machinery and apparatus for weaving cotton, silk, flax, wool, and other fibrous substances.	9032	21st July 1841	John M'Bride.
Looms for weaving - - - - -	9065	4th Sept. 1841	{ William Hill Darker, sen. William Hill Darker, jun. William Wood.
Machinery or apparatus employed in the manufacture of cloth; improvements applicable to the same - - - - -	9078	8th Sept. 1841	{ Joseph Garnett. John Mason.
Manufacture of a fabric applicable to sails and other purposes [weaving].	9112	7th Oct. 1841	Mathias Nicolas La Roche Barré.
Looms for weaving - - - - -	9126	21st Oct. 1841	{ James Whitworth. Hugh Booth.
Looms for weaving - - - - -	9257	15th Feb. 1842	John Osbaldeston.
Looms for weaving by hand or by power - -	9311	31st March 1842	William Liversidge Trippett.
Machinery or apparatus for weaving - - -	9339	3rd May 1842	John Railton.
Weaving fabrics to be used for covering buttons -	9347	9th May 1842	William Sanderson.
Looms for weaving; mode or method of producing plain or figured goods or fabrics.	9491	13th Oct. 1842	Robert William Sievier.
Construction or looms for weaving - - -	9507	3rd Nov. 1842	James Bullough.
Looms for weaving - - - - -	9798	22nd June 1843	{ Samuel Eccles. Matthew Curtis.
Modification of machinery applicable to the manufacture of woven fabrics.	9922	2nd Nov. 1843	Joshua Procter Westhead.
Manufacture of flannel [by using yarns of improved mixtures of wool.]	9934	9th Nov. 1843	Samuel Archer.
Looms for weaving various kinds of fabrics - -	9940	16th Nov. 1843	Luke Smith.
Manufacture of crape or a substitute for crape [woven in lace machinery or warp frames].	10,039	8th Feb. 1844	Christopher Nickels.
Manufacture of looped, woven and elastic fabrics -	10,133	30th March 1844	{ John Biggs. Richard Harris, junior.
Weaving and weaving machines - - - - -	10,196	22nd May 1844	Joseph Mcëus.
Machinery and apparatus for weaving by hand, steam, or other power.	10,259	15th July 1844	John M'Bride.
Looms - - - - -	10,266	24th July 1844	James Nield.
Looms for weaving; method of producing plain or figured goods or fabrics.	10,305	5th Sept. 1844	Robert William Sievier.
Power-looms - - - - -	10,306	12th Sept. 1844	{ Martin Cawood. William Pritchard, sen.
Looms - - - - -	10,339	3rd Oct. 1844	William Thomas.
Looms for weaving - - - - -	10,428	12th Dec. 1844	William Kenworthy.
Looms for weaving - - - - -	10,462	11th Jan. 1845	Squire Diggle.



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<b>WEAVING, &amp;c.—continued.</b>			
Power-loom for the manufacture of cloth from cotton-wool and other fibrous substances.	<a href="#">10,486</a>	21st Jan. 1845	Thomas Noton.
Weaving [ <i>weaving two webs in one loom by power</i> ] -	<a href="#">10,522</a>	14th Feb. 1845	James Clark.
Looms for weaving - - - - -	<a href="#">10,527</a>	20th Feb. 1845	John Place.
Looms for weaving - - - - -	<a href="#">10,563</a>	17th March 1845	John Sellers, junior.
Machinery for weaving - - - - -	<a href="#">10,724</a>	18th June 1845	Richard Archibald Brooman.
Weaving-machinery - - - - -	<a href="#">10,764</a>	12th July 1845	William Chantrell.
Weaving - - - - -	<a href="#">10,791</a>	29th July 1845	Caleb Bedells.
Looms for weaving - - - - -	<a href="#">10,832</a>	18th Sept. 1845	{ William Eccles. William Crook. William Lancaster.
Machinery for weaving - - - - -	<a href="#">10,933</a>	11th Nov. 1845	William Henson.
Fabric for sailcloth [ <i>weaving</i> ] - - - - -	<a href="#">10,942</a>	15th Nov. 1845	John Ayre.
Weaving - - - - -	<a href="#">11,001</a>	29th Jan. 1846	James Brown.
Power-loom - - - - -	<a href="#">11,075</a>	4th Feb. 1846	William Milligan.
Manufacture of certain descriptions of silks and other fabrics.	<a href="#">11,089</a>	11th Feb. 1846	John William Stanbridge.
Machinery for weaving and preparing materials for weaving [ <i>power hand-loom</i> ].	<a href="#">11,100</a>	20th Feb. 1846	Peter Claussen.
Looms and apparatus connected with looms for weaving.	<a href="#">11,225</a>	28th May 1846	John Hyde.
Making fabrics from fibrous materials - - -	<a href="#">11,233</a>	2nd June 1846	Moses Poole.
Weaving - - - - -	<a href="#">11,444</a>	12th Nov. 1846	John McBride.
New and improved woven fabric; machinery for producing the same.	<a href="#">11,454</a>	17th Nov. 1846	John Healey.
Looms for weaving - - - - -	<a href="#">11,462</a>	1st Dec. 1846	{ James Bullough. Adam Bullough.
Weaving materials used in book-binding; applicable to other weaving.	<a href="#">11,495</a>	15th Dec. 1846	Mark Bingley.
Looms for weaving - - - - -	<a href="#">11,519</a>	7th Jan. 1847	John Clegg.
Manufacture of looped and woven fabrics - -	<a href="#">11,572</a>	8th Feb. 1847	{ Uriah Clarke. Harley Barber.
Weaving-machinery; preparation of materials employed in weaving [ <i>plain weaving</i> ].	<a href="#">11,658</a>	15th April 1847	Peter Claussen.
Manufacture of woven fabrics and giving elasticity to certain articles or fabrics [ <i>weaving three or more fabrics at the same time, so as to be joined into one solid fabric, or made into tubular fabrics of two or more thicknesses; or arranged so that two, three, or more fabrics woven at the same time may be joined only in part of their width, each fabric having its own separate selvage</i> ].	<a href="#">11,729</a>	3rd June 1847	Christopher Nickels.
Looms for weaving certain kinds of cloth - -	<a href="#">11,730</a>	3rd June 1847	John Hill.
Looms for weaving - - - - -	<a href="#">11,785</a>	3rd July 1847	John Carr.
Machinery for weaving yarns - - - - -	<a href="#">11,814</a>	24th July 1847	{ John Platt. Thomas Palmer.
Looms for weaving - - - - -	<a href="#">11,875</a>	30th Sept. 1847	Thomas Moore.
Machines for preparing to be woven and weaving cotton and other fibrous substances - - - }	<a href="#">11,902</a>	14th Oct. 1847	{ Matthew Curtis. Robert Lakin.
Machinery for weaving - - - - -	<a href="#">11,925</a>	26th Oct. 1847	William Thomas.

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<b>WEAVING, &amp;c.—continued.</b>			
Weaving - - - - -	<a href="#">11,933</a>	2nd Nov. 1847	William James Walker.
Looms for weaving - - - - -	<a href="#">11,978</a>	25th Nov. 1847	Edwin Travis.
Power-looms - - - - -	<a href="#">11,980</a>	25th Nov. 1847	George Holgate.
Looms for weaving [ <i>power-looms</i> ] - - - - -	<a href="#">12,036</a>	22nd Jan. 1848	{ William Hudson. John Dodgeon.
Looms for weaving - - - - -	<a href="#">12,037</a>	22nd Jan. 1848	Henry Heywood.
Looms for weaving - - - - -	<a href="#">12,156</a>	11th May 1848	Mark Smith.
Manufacture of stays, fastening and connecting fabrics and garments [ <i>weaving stay-cloth</i> ].	<a href="#">12,221</a>	26th July 1848	William Thomas.
Improvements in and applicable to looms for weaving.	<a href="#">12,267</a>	11th Sept. 1848	William Dickinson.
Weaving plain fabrics - - - - -	<a href="#">12,292</a>	19th Oct. 1848	Robert William Sievier.
Looms for weaving various descriptions of plain and ornamental textile fabrics - - - - -	<a href="#">12,368</a>	15th Dec. 1848	{ Joseph Eccles. James Bradshaw. William Bradshaw.
Looms for weaving certain descriptions of cloth [ <i>double cloth united at the selvages</i> ].	<a href="#">12,376</a>	16th Dec. 1848	William Major.
Manufacturing silk, linen, mixed cloth, &c., by which method less warp is required, and perfect and regular figures or patterns are produced [ <i>weaving</i> ].	<a href="#">12,388</a>	21st Dec. 1848	William Curtain.
Looms and apparatus connected with looms for weaving various descriptions of textile fabrics [ <i>application of rollers covered with ground glass, emery, sand, bristles, or whalebone, for the purpose of removing impurities from the cloth</i> ].	<a href="#">12,400</a>	4th Jan. 1849	Robert <a href="#">Munn</a> .
Manufacture of window-blinds [ <i>weaving fabrics for window blinds</i> ].	<a href="#">12,401</a>	4th Jan. 1849	William Thomas.
Preparing to be woven, and weaving cotton and other fibrous substances.	<a href="#">12,445</a>	<a href="#">27th</a> Jan. 1849	James Green Gibson.
Power-looms for weaving - - - - -	<a href="#">12,449</a>	31st Jan. 1849	William Kenworthy.
Improvements in and applicable to looms for weaving	<a href="#">12,455</a>	6th Feb. 1849	{ Joseph Harrison. William Harrison. John Oddie.
Manufacture of woollen and other fabrics - - - - -	<a href="#">12,472</a>	12th Feb. 1849	Christopher Nickels.
Machinery for weaving - - - - -	<a href="#">12,484</a>	22nd Feb. 1849	John Bottomley.
Machinery for weaving yarns - - - - -	<a href="#">12,535</a>	26th March 1849	{ John Mason. George Collier.
Manufacture, making, or construction of certain articles of wearing-apparel [ <i>weaving cloth having two faces in one piece of different colours or texture</i> ] - - - - -	<a href="#">12,550</a>	28th March 1849	{ William Beckett. Samuel Powell.
Looms for weaving - - - - -	<a href="#">12,568</a>	16th April 1849	{ Robert Clegg. Joseph Henderson. James Calvert.
Machinery or apparatus for weaving - - - - -	<a href="#">12,598</a>	3rd May 1849	Samson Woller.
Manufacturing a certain part or parts of looms for weaving.	<a href="#">12,608</a>	14th May 1849	Samuel Allport.
Weaving - - - - -	<a href="#">12,614</a>	22nd May 1849	Pierre Armand le Comte de Fontainemoreau.
Looms for weaving - - - - -	<a href="#">12,639</a>	5th June 1849	Victor Hippolyte Laurent.
Power-looms - - - - -	<a href="#">12,650</a>	7th June 1849	{ James Steel. Benjamin Emmerson.
Looms; manufacture of woven and twisted fabrics -	<a href="#">12,680</a>	<a href="#">29th</a> June 1849	Thomas Beale Browne.



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<b>WEAVING, &amp;c.—continued.</b>			
Machinery for weaving flax, cotton, silk, and other fibrous substances.	<a href="#">12,693</a>	4th July 1849	John Combe.
Manufacture of stays and other parts of dress } [weaving stay-cloth] - - - - - }	<a href="#">12,736</a>	9th Aug. 1849	{ William Thomas. John Marsh.
Looms for weaving - - - - -	<a href="#">12,792</a>	4th Oct. 1849	William Jamieson.
Apparatus for weaving - - - - -	<a href="#">12,796</a>	12th Oct. 1849	Charles Rowley.
Machinery used for weaving cotton and other } fibrous substances - - - - - }	<a href="#">12,805</a>	12th Oct. 1849	{ Robert Lakin. William Henry Rhodes.
Machinery and apparatus for weaving cotton and } other fibrous substances - - - - - }	<a href="#">12,873</a>	3rd Dec. 1849	{ William Eccles, senior. William Eccles, junior. Henry Eccles.
Machinery for weaving cotton-wool and other fibrous substances.	<a href="#">12,882</a>	10th Dec. 1849	David Christie.
Looms for weaving - - - - -	<a href="#">12,929</a>	17th Jan. 1850	Richard Smith.
Machines for preparing yarns for linen, woollen, and cotton cloths before entering the loom [application of dressed warps for making linen and sail cloth].	<a href="#">12,945</a>	26th Jan. 1850	Winceslas Le Baron De Traux De Wardin.
Machinery for weaving plain fabrics - - - - -	<a href="#">12,948</a>	29th Jan. 1850	Richard Roberts.
Machinery or apparatus for weaving cotton and } other textile materials [looms] - - - - - }	<a href="#">12,952</a>	29th Jan. 1850	{ John Mason. Mark Smith.
Looms for weaving - - - - -	<a href="#">12,979</a>	25th Feb. 1850	James Hall.
Looms for weaving - - - - -	<a href="#">12,997</a>	7th March 1850	{ John Tayler. Richard Hurst.
Machinery for weaving cotton, flax, and other fibrous substances.	<a href="#">13,034</a>	11th April 1850	John Platt.
Weaving - - - - -	<a href="#">13,038</a>	15th April 1850	Robert Reid.
Machinery or apparatus and operations connected } with the manufacture of cotton-wool, silk, and } other fibrous substances, and the application of } certain materials to the manufacture of textile } fabrics - - - - - }	<a href="#">13,072</a>	7th May 1850	{ John Tatham. David Cheetham.
Machinery for weaving cotton-wool and other } fibrous substances - - - - - }	<a href="#">13,085</a>	29th May 1850	{ James Ashworth. Thomas Mitchell.
Machinery for manufacturing woven fabrics [looms]	<a href="#">13,091</a>	1st June 1850	{ Arthur Elliott. Henry Heys.
Looms for weaving - - - - -	<a href="#">13,126</a>	11th June 1850	John Sidebottom.
Manufacture of certain descriptions of woollen fabrics [weaving superfine double milled and beaver cloth and blankets].	<a href="#">13,182</a>	17th July 1850	Ezekiel Edmonds, junior.
Machinery for weaving cotton, flax, and other } fibrous substances; constructing and applying } models for moulding, preparatory to casting } parts of such machinery; certain tools to be used } in making such machinery - - - - - }	<a href="#">13,208</a>	31st July 1850	{ Peter Fairbairn. John Hetherington.
Power-looms for weaving - - - - -	<a href="#">13,217</a>	10th Aug. 1850	Henry Meyer.
Manufacture of textile fabrics [weaving fabrics suitable for making bags or cases].	<a href="#">13,249</a>	5th Sept. 1850	Christopher Cross.
Looms for weaving - - - - -	<a href="#">13,259</a>	19th Sept. 1850	William Eccles.
Looms for weaving - - - - -	<a href="#">13,260</a>	19th Sept. 1850	Samuel Brisbane.
Weaving and preparing fibrous materials - - -	<a href="#">13,284</a>	24th Oct. 1850	Thomas Beale Browne.
Weaving-machinery [power-looms] - - - - -	<a href="#">13,311</a>	2nd Nov. 1850	John Borland.
Machinery or apparatus for weaving cotton-wool and other fibrous substances.	<a href="#">13,325</a>	7th Nov. 1850	David Christie.



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<b>WEAVING, &amp;c.—continued.</b>			
Looms for weaving - - - - -	<a href="#">13,349</a>	14th Nov. 1850	Abraham Haley.
Machinery or apparatus for weaving cotton, flax, and other fibrous substances.	<a href="#">13,379</a>	2nd Dec. 1850	John Platt.
Machinery for weaving cotton, flax, and other fibrous substances - - - - -	<a href="#">13,449</a>	11th Jan. 1851	{ John Clarkson Milns. Samuel Pickstone.
Weaving textile goods or fabrics - - - - -	<a href="#">13,467</a>	21st Jan. 1851	Robert William Sievier.
Weaving - - - - -	<a href="#">13,491</a>	5th Feb. 1851	Benjamin Ledger Shaw.
Manufacture of woven and felted fabrics. [See "CLOTH-FELTING."]	<a href="#">13,612</a>	3rd May 1851	William Edward Newton.
Fabrics; weaving-machinery and apparatus for weaving, &c. [looms] - - - - -	<a href="#">13,633</a>	14th May 1851	{ Luke Smith. Mark Smith. Mathew Smith.
Looms for weaving - - - - -	<a href="#">13,667</a>	17th June 1851	{ Thomas Croft James Mason.
Looms for weaving - - - - -	<a href="#">13,677</a>	3rd July 1851	{ John Platt. Richard Burch.
Looms for weaving - - - - -	<a href="#">13,685</a>	3rd July 1851	William Harner.
Machinery or apparatus for manufacturing textile fabrics [weaving] - - - - -	<a href="#">13,693</a>	17th July 1851	{ William Dickinson. Robert Willan.
Manufacture of textile fabrics; machinery for producing the same.	<a href="#">13,750</a>	18th Sept. 1851	John Livesey.
Preparing and weaving cotton [dressing and weaving simultaneously].	<a href="#">13,829</a>	22nd Nov. 1851	Jean Baptiste Chalmin.
Manufacture or production of ornamental fabrics [weaving zebra cloths with uncoloured warps].	<a href="#">13,898</a>	20th Jan. 1852	James Mac Nee.
Looms - - - - -	<a href="#">13,963</a>	23rd Feb. 1852	James Pilling.
Weaving looms [for making bags, sacks, mattress-ticks, &c., complete and without seams].	<a href="#">13,989</a>	25th Feb. 1852	Russell Sturgis.
Apparatus applicable to looms for weaving; tools employed therein - - - - -	<a href="#">13,990</a>	26th Feb. 1852	{ John Elce. John Bond.
Machinery for weaving fabrics - - - - -	<a href="#">14,092</a>	28th April 1852	William Newton.
Weaving cotton-wool and other fibrous materials; tools or apparatus for constructing parts of machines used in such manufactures - - - - -	<a href="#">14,140</a>	22nd May 1852	{ John Mason. George Collier.
Manufacture of textile fabrics [forming selvages] - - - - -	<a href="#">14,158</a>	8th June 1852	Enoch Townend.
Manufacture of various textile fabrics from certain fibrous matters [from the fibres of the plantain, banana, and other tropical plants and trees].	<a href="#">14,229</a>	20th July 1852	Stribblehill Norwood May.
Manufacture of fabrics when wool, cotton, and silk are employed [combining cotton and wool or wool and silk for the purpose].	<a href="#">14,250</a>	31st July 1852	William Ackroyd.
Machinery for weaving cotton-wool and other fibrous substances.	<a href="#">14,256</a>	10th Aug. 1852	Edward Joseph Hughes.
Machinery or apparatus for weaving cotton and other fibrous substances [coating joints of straps or bands for spinning and weaving machinery with cement or varnish].	<a href="#">14,267</a>	19th Aug. 1852	Henry Spencer.
Manufacture of textile fabrics; machinery for producing such fabrics - - - - -	<a href="#">14,270</a>	19th Aug. 1852	{ Samuel Nichols. John Livesey. Edward Wroughton.
Looms for weaving [arrangement of shuttle boxes and picking apparatus].	<a href="#">14,279</a>	26th Aug. 1852	John Fish.
Weaving [with two shuttles] - - - - -	<a href="#">14,308</a>	30th Sept. 1852	{ Christopher Nickels. Benjamin Burrows.
Manufacture of woven, textile, and looped fabrics; machinery employed therein.	<a href="#">14,313</a>	30th Sept. 1852	William Hodgson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
<b>VII.—Weaving Wire and Sieve Cloths, Hair, and Whalebone.</b>			
Weaving gold and silver wire and copper wire gilt either with cotton, silk, thread, or yarn.	<a href="#">814</a>	18th June 1764	John Crumpler.
Making of whalebone, a cloth for webbing, fit for making hats, caps, &c., and for the backs and seats of chairs, sofas, gigs and other similar carriages, and for the bottoms of beds.	<a href="#">2985</a>	30th Oct. 1806	Robert Bowman.
Weaving or manufacturing hair along with silk or thread, or other materials, and making the same into perukes or wigs and various other articles so as to imitate nature.	<a href="#">3076</a>	21st Oct. 1807	Louis Caron.
Machinery for spinning, twisting or curling and weaving horsehair and other hairs as well as various fibrous substances.	<a href="#">7901</a>	12th Dec. 1838	Thomas Robinson Williams.
Manufacturing wire fabrics for blinds and for other uses.	<a href="#">10,656</a>	6th May 1845	Joseph Hill.
Fabric suitable for goods' wrappers, waggon-covers, and other like purposes; processes employed in the manufacture of the same [ <i>introducing metallic wires in the weaving</i> ].	<a href="#">11,438</a>	5th Nov. 1848	Henry Henson.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of sieve-cloths</i> ]	<a href="#">11,455</a>	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Manufacture of wire-cloth - - - - -	<a href="#">11,677</a>	30th Sept. 1847	Richard Johnson.
Manufacture of sieves [ <i>weaving sieve-cloth</i> ] - -	<a href="#">12,111</a>	5th April 1848	Joseph Foot.
Manufacturing wire into woven fabrics [ <i>in power-loom</i> ].	<a href="#">14,184</a>	24th June 1852	Samuel Lusty.
<b>VIII.—Figure-weaving; Jacquards and Tappets.</b>			
Machine for making, drawing, sizing and proportioning threads of silk, worsted, hemp, flax, gold or silver wire or other materials; also for manufacturing, weaving and making the same into pieces of silk, worsted, or linen cloth either quite plain, or ribbed, figured or flowered in imitation of tambour or embroidery-work, the machine being contrived to prepare the threads and weave the cloth at one and the same time, or either operation separately.	<a href="#">1154</a>	8th May 1777	Robert Barber.
Method of weaving diaper and damask linens for tabling and for other purposes, also some kinds of figured silks, cottons and worsteds, where three or more weft shots are necessary betwixt each draught, without the assistance of drawboys.	<a href="#">1237</a>	23rd Nov. 1779	William Cheape.
New kind of cotton goods wherein the warp and weft are combined and united together, and the colour raised and thrown up with cotton, silk, linen, or worsted by a new method, into diamonds, waves, spots, sprigs, flowers, and other figures.	<a href="#">2078</a>	18th Dec. 1795	William Cockshott.
Manufacturing cloth, the warp whereof is composed of silk, cotton, woollen, worsted or linen yarn, and the weft of sheep's wool or lambs' wool [ <i>weaving cloth having floated weft</i> ] - - - -	<a href="#">2417</a>	20th June 1800	{ Robert Fryer. James Bennett.
Weaving borders or stripe of different colours, on shawls or other goods of cotton, silk, linen, worsted, or any mixture of the same.	<a href="#">3054</a>	16th June 1807	William Atkins.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Manufacture of shawls, cords and Brunswicks, from mixtures of animal and vegetable wool, prepared and spun into yarn, without oil - - -	3684	28th April 1813	{ Richard Coupland. Frederick Coupland.
Machine for weaving cotton and other goods by hand, steam, water, or other power [ <i>loom with toppets</i> ].	3728	31st July 1813	William Horrocks.
Loom to work by the power from a steam-engine, and which will weave figures or flowers upon either twilled or plain cloth in either silk, cotton, linen, or worsted, or any of them intermixed.	4216	31st Jan. 1818	Benjamin Taylor.
New species of loom work, whereby figures or flowers can be produced in a mode hitherto unknown, upon any fabric of cloth during the process of weaving, whether such fabric be linen, cotton, woollen, silk, or any of them intermixed.	4278	11th Jan. 1818	James Milton.
Manufacture of shawls, plaids, scarfs, handkerchiefs, gown-pieces, and other articles in which coloured threads are wrought into flowers and other fancy figures in weaving, whether of silk, cotton, worsted, lint, hemp, or other materials or mixtures thereof.	4411	18th Nov. 1819	John Sinclair.
Machinery for weaving figured goods - - -	4543	8th March 1821	Stephen Wilson.
Machinery for weaving [ <i>figured goods</i> ] - - -	4795	31st May 1823	Stephen Wilson.
Method of figuring or ornamenting various descriptions or kinds of goods manufactured from silk, cotton, or flax.	4896	24th Jan. 1824	John Heathcoat.
Looms to be impelled by mechanical power for weaving various kinds of fabrics, whether of silk, cotton, flax, wool, or other materials or mixtures of the same;—partly applicable to hand-looms.	4951	13th May 1824	John Potter.
Manufacture of stuffs with transparent and coloured figures; " <i>Diaphane stuffs</i> " [ <i>woven in a loom furnished with a jacquard apparatus to form the diaphanous parts, the warp being first printed</i> ].	5042	25th Nov. 1824	Stephen Wilson.
Weaving [ <i>power-loom for weaving figured goods</i> ] -	5069	11th Jan. 1825	Francis Gybbon Spilsbury.
Looms for weaving fabrics [ <i>Jacquard or Lyons loom</i> ].	6410	9th April 1833	Claude Marie Hilaire Molinard.
Improvements applicable to the jacquard-loom for weaving figured fabrics.	6489	19th Oct. 1833	Jacques François Victor Gerard.
Looms or machinery for weaving fabrics [ <i>figure weaving; applying a body of needles instead of the jacquard movement</i> ].	6696	17th Oct. 1834	Claude Marie Hilaire Molinard.
Producing plain or ornamental weavings - - -	6907	15th Oct. 1835	Samuel Draper.
Jacquard-looms - - - - -	6981	19th Jan. 1836	Moses Poole.
Machinery for weaving plain and figured fabrics -	7012	25th Feb. 1836	Clinton Gray Gilroy.
Jacquard machine and ten box lay, used in making shawls and figured work.	7019	8th March 1836	James Morison.
New mode of producing certain patterns in certain woven goods.	7085	7th May 1836	Matthew Hawthornthwaite.
Manufacturing, producing, forming, or fashioning ornaments or ornamented work or figures upon or applicable to gauze, muslin and net, and divers kinds of cloth, stuff, or woven textures; and machinery, tools, implements, or apparatus to be used in manufacturing, producing, forming, fashioning, and applying such ornaments or ornamented work.	7359	4th May 1837	John Heathcoat.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Looms for weaving figured and ornamental fabrics [ <i>applying jacquard machinery to power-looms</i> ].	7498	5th Dec. 1837	Moses Poole.
Construction of looms for weaving various sorts of cloths, which looms may be set in motion by any adequate power [ <i>tappet-loom</i> ].	7529	4th Jan. 1838	Bennet Woodcroft.
Power-looms and hand-looms for weaving plain and figured fabrics [ <i>jacquard and other looms</i> ] - - }	7532	5th Jan. 1838	{ William Eccles. Samuel Wells.
Manufacture of shawls and other fabrics [ <i>employing a thread composed partly of fur and partly of other fibrous materials, or a thread of New Zealand flax mixed with other materials</i> ].	7608	4th April 1838	William Angus Robertson.
Looms for weaving; mode or method of producing figured goods or fabrics.	7763	6th Aug. 1838	Robert William Sievier.
Construction of looms for weaving [ <i>plain or figured, to supersede jacquards</i> ].	8055	30th April 1839	John Rostron.
Manufacture of ornamental woven fabrics [ <i>using spun glass as weft</i> ].	8097	8th June 1839	François Vouillon.
Looms for weaving [ <i>jacquard looms for making counterpanes and for quilting</i> ].	8116	19th June 1839	Peter Lomax.
Looms for weaving [ <i>jacquard and other looms</i> ] -	8270	12th Nov. 1839	Moses Poole.
Construction of looms for weaving [ <i>tappet-looms</i> ] -	8359	23rd Jan. 1840	George Clarke.
Looms for weaving figured and twilled fabrics -	8412	4th March 1840	{ Joseph Norton. George Collier.
Looms for weaving [ <i>jacquards</i> ] - - - -	8725	27th Nov. 1840	Miles Berry.
Looms for weaving [ <i>jacquards</i> ] - - - -	8774	6th Jan. 1841	William Newton.
Weaving cotton, silk, wool, and other fibrous substances; machines and instruments for the purpose [ <i>jacquard apparatus</i> ].	8796	19th Jan. 1841	James Smith.
Machinery and apparatus for weaving cotton with flax, wool, and other fibrous substances [ <i>applying the jacquard in the power-loom for working the healds in figured cloth</i> ].	9032	21st July 1841	John M'Bride.
Machinery for figure weaving in silk and other fabrics.	9271	1st March 1842	Marc La Riviere.
Jacquard-machine to be employed in looms for weaving.	9359	23rd May 1842	Frederick Goos.
Looms for weaving; mode or method of producing plain or figured goods or fabrics.	9491	13th Oct. 1842	Robert William Sievier.
Weaving figured fabrics - - - -	9573	28th Dec. 1842	Thomas Thompson.
Figure-weaving machinery - - - -	9994	28th Dec. 1843	Richard Archibald Brooman.
Machinery for figure-weaving in silk and other fabrics.	<a href="#">10,274</a>	26th July 1844	Edmund Pace.
Looms for weaving; mode or method of producing plain or figured goods or fabrics.	<a href="#">10,305</a>	5th Sept. 1844	Robert William Sievier.
Manufacture of fabrics suitable for ornament or dress.	<a href="#">10,347</a>	14th Oct. 1844	John Smith.
Looms for weaving [ <i>endless chain to act as tappets in weaving fancy goods</i> ].	<a href="#">10,462</a>	11th Jan. 1845	Squire Diggle.
Hand-loom weaving, and producing a double fabric of raised figure work in the same loom by one process of weaving.	<a href="#">10,681</a>	22nd May 1845	Robert Kerr.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Method or methods of weaving in patterns or various colours or fabrics.	<a href="#">10,762</a>	12th July 1845	Hugh Cogan.
Machinery for weaving and producing patterns in weaving [ <i>weaving two separate pieces of cloth in one loom</i> ]	<a href="#">11,424</a>	22nd Oct. 1846	{ John Paterson Reid. Thomas Johnson.
Weaving by jacquard-loom by power	<a href="#">11,498</a>	21st Dec. 1846	John Watson.
Looms for weaving [ <i>power-loom for figured goods; employing an endless tappet-chain</i> ].	<a href="#">11,573</a>	9th Feb. 1847	Enoch Wilkinson.
Manufacturing woven goods figured on both sides.	<a href="#">11,757</a>	19th June 1847	James Murdoch.
Looms for weaving [ <i>applicable to jacquard apparatus</i> ].	<a href="#">12,158</a>	11th May 1848	Mark Smith.
Jacquard machinery for figuring fabrics and tissues generally, and apparatus for transmission of designs to said jacquard machinery;—parts of which are applicable to playing musical instruments, composing printing-types and other like purposes.	<a href="#">12,229</a>	5th Aug. 1848	Duncan Mackenzie.
Means of weaving plain and figured fabrics	<a href="#">12,292</a>	19th Oct. 1848	Robert William Sievier.
Improvements in and applicable to looms for weaving various descriptions of plain and ornamental textile fabrics	<a href="#">12,368</a>	11th Dec. 1848	{ Joseph Eccles. James Bradshaw. William Bradshaw.
Looms for weaving [ <i>using perforated paper instead of cards in jacquard-loom</i> ].	<a href="#">12,485</a>	28th Feb. 1849	Clemence Augustus Kurtz.
Production of figured fabrics	<a href="#">12,545</a>	23th March 1849	Frederick William Norton.
Machinery or apparatus for weaving [ <i>construction of jacquard-loom</i> ].	<a href="#">12,598</a>	3rd May 1849	Samson Woller.
Jacquard-machine	<a href="#">12,602</a>	5th May 1849	William Newton.
Weaving [ <i>jacquard-machines</i> ]	<a href="#">12,614</a>	22nd May 1849	Pierre Armand le Comte de Fontainemoreau.
Machinery for weaving flax, cotton, silk, and other fibrous substances [ <i>jacquard apparatus</i> ].	<a href="#">12,693</a>	4th July 1849	John Combe.
Plain and ornamental weaving [ <i>also working jacquard apparatus</i> ].	<a href="#">12,768</a>	13th Sept. 1849	Edwin Heywood.
Apparatus for weaving [ <i>applying the jacquard to produce figures on corduroys and velveteens</i> ].	<a href="#">12,796</a>	12th Oct. 1849	Charles Rowley.
Weaving [ <i>jacquard-loom</i> ].	<a href="#">12,833</a>	2nd Nov. 1849	Alfred Barlow.
Manufacture of certain textile fabrics; machinery for weaving plain and figured fabrics [ <i>jacquard apparatus</i> ].	<a href="#">12,948</a>	29th Jan. 1850	Richard Roberts.
Machinery for the production of and for ornamenting fabrics, and tissues generally;—partly applicable to the regulation of other machinery and to other similar purposes [ <i>jacquard-loom</i> ].	<a href="#">12,980</a>	27th Feb. 1850	Mathew Cochran.
Manufacturing certain woven fabrics [ <i>by jacquard apparatus, and the use of parti-coloured warp and weft</i> ].	<a href="#">13,263</a>	26th Sept. 1850	Alfred Vincent Newton.
Manufacture of cotton, and other fibrous materials, and fabrics composed of such materials [ <i>jacquard and other looms</i> ].	<a href="#">13,313</a>	2nd Nov. 1850	{ John Tatham. David Cheetham.
Machinery or apparatus for weaving figured fabrics applicable where Jacquard's apparatus may be employed.	<a href="#">13,437</a>	2nd Jan. 1851	John Corry.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Manufacture of textile fabrics [ <i>application of a jacquard apparatus for weaving shapes suitable for wearing-apparel</i> ].	<a href="#">13,585</a>	8th April 1851	Christopher Cross.
Fabrics; weaving; machinery and apparatus for weaving, &c. [ <i>moving healds by tappets</i> ] - - }	<a href="#">13,633</a>	14th May 1851	{ Luke Smith. Mark Smith. Matthew Smith.
Looms for weaving [ <i>figured fabrics</i> ] - - - }	<a href="#">13,667</a>	17th June 1851	{ Thomas Crook. James Mason.
Looms for weaving [ <i>endless tappet-chain</i> ] - - }	<a href="#">13,677</a>	3rd July 1851	{ John Platt. Richard Burch.
Manufacture or production of figured fabrics [ <i>weaving</i> ].	<a href="#">13,659</a>	16th Dec. 1851	Frederick William Norton.
Manufacture or production of ornamental fabrics [ <i>weaving a fabric called "zebra," by means of coloured warps and jacquard apparatus attached to the loom</i> ].	<a href="#">13,698</a>	20th Jan. 1852	James Macnee.
Weaving shawls and other fabrics - - - - }	<a href="#">14,047</a>	29th March 1852	James Melville.
Manufacture and treatment or finishing of textile fabrics and materials [ <i>apparatus on the principle of the jacquard, for weaving figured fabrics</i> ].	<a href="#">14,129</a>	22nd May 1852	David Dick.
Weaving cotton-wool and other fibrous materials; tools or apparatus for constructing parts of machines used in such manufactures [ <i>fancy weaving machinery</i> ] - - - - }	<a href="#">14,140</a>	22nd May 1852	{ John Mason. George Collier.
Looms for weaving [ <i>jacquard-engine</i> ] - - - - }	<a href="#">14,155</a>	5th June 1852	Robert Hardman.
Machinery or apparatus for weaving cotton and other fibrous substances [ <i>an arrangement of endless tappets</i> ].	<a href="#">14,267</a>	19th Aug. 1852	Henry Spencer.
Manufacture or production of ornamental fabrics [ <i>weaving</i> ].	<a href="#">14,290</a>	10th Sept. 1852	Alexander Stewart.
Construction of looms for weaving various sorts of cloth, which looms may be set in motion by any adequate power [ <i>tappet-loom; a prolongation for seven years of patent No. 7529, from the 4th day of January 1852</i> ].	<a href="#">14,359</a>	26th July 1853	Bennet Woodcroft.
<b>IX.—Reading-machines for Jacquard-loom; perforating Cards.</b>			
Machinery for weaving figured goods [ <i>preparing cards for the jacquard-loom</i> ].	4543	8th March 1821	Stephen Wilson.
Reading and stamping machine used in making shawls and figured work.	7019	8th March 1836	James Morison.
Machinery for weaving woollen and other fabrics; manufacture of woollen doeskins [ <i>and making cards for jacquard-loom, by cementing woven fabrics and afterwards perforating the same; also connecting the cards by means of cloth hinges</i> ].	8880	2nd March 1841	George England.
Machine for figure-weaving in silk and other fabrics [ <i>setting or reading patterns and stamping or punching them in jacquard-cards</i> ].	9271	1st March 1842	Marc La Riviere.
Machinery used for setting and reading patterns and stamping or punching them on jacquard-cards - - - - }	9914	21st Oct. 1843	{ James Gibbons. Thomas Roe.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Apparatus for transmission of designs to jacquard machinery;—parts of which are applicable to playing musical instruments, composing printing-types, and other like purposes.	<a href="#">12,229</a>	5th Aug. 1848	Duncan Mackenzie.
Machinery for figuring textile fabrics;—partly applicable to playing certain musical instruments, and also to printing and other like purposes [ <i>mechanism for transferring patterns punctured on ruled paper to the pattern-paper</i> ].	<a href="#">12,421</a>	16th Jan. 1849	William Martin.
Weaving [ <i>constructing a cylinder to supersede the use of perforated cards</i> ].	<a href="#">12,614</a>	22nd May 1849	Peter Armand le Comte de Fontainemoreau.
Machinery for the production of and for ornamenting fabrics and tissues generally;—partly applicable to the regulation of other machinery and to other similar purposes [ <i>machines for perforating cards for jacquard-ooms; mode of reading in the pattern</i> ].	<a href="#">12,980</a>	27th Feb. 1850	Mathew Cochran.
Manufacture and treatment or finishing of textile fabrics and materials [ <i>cutting or perforating sheets, cards, or webs for figure-weaving</i> ].	<a href="#">14,129</a>	22nd May 1852	David Dick.
Machinery and apparatus for reading in and transferring designs or patterns, and for cutting, punching, and numbering or otherwise preparing, perforated cards, papers, or other materials used or suitable in the manufacture of figured textile fabrics by jacquard or other weaving looms or frames.	<a href="#">14,194</a>	29th June 1852	Duncan Mackenzie.
<b>X.—Piled Fabrics.—[Carpets and Tapestry].</b>			
Making tapestry with Grogam yarn - - -	<a href="#">346</a>	14th Dec. 1695	{ Thomas Mathews. Thomas Ferrers.
Weaving tapestry in the loom - - -	<a href="#">492</a>	1st May <a href="#">1727</a>	James Christopher Le Blon.
Making carpeting named moccadoes, moccades, or mouquets - - - - -	<a href="#">578</a>	18th July 1741	{ Ignatius Couran. John Barford. William Moody.
Manufacture of carpets, tapestry, &c., in imitation and to answer the purposes of furs and skins of various kinds.	1736	20th March 1790	George Holland.
Making draw or bench looms for manufacturing of carpets, borders, and other things, whereby a greater variety of shades and colours may be introduced than in the looms now in use.	2184	4th July <a href="#">1797</a>	Anthony George Eckhardt.
Weaving and manufacturing East India sun-heinp into carpets and carpet-rug mats.	3031	11th April 1807	Thomas Paty.
Method of working or manufacturing carpeting for carpets and carpet-rugs, not heretofore used [ <i>weaving</i> ].	3046	29th May 1807	Joseph Bowyer.
Method of making rugs, carpets, or other articles of furniture or dress, consisting of carded wool or other substance capable of being carded and interwoven, to form a firm texture, or consisting of worsted or other spun yarn, of any number of colours, formed into a figure in imitation of needlework, on the surface of any piece of goods woven on the common loom, without passing the threads through the reeds, and with or without the aforesaid carded substances.	3576	13th June 1812	John Webb.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Working or making Kidderminster or Scotch carpeting in pieces of different widths exceeding eighteen inches wide, whereby a complete pattern, figure, or flower is made to extend the whole width of the piece, and may be worked or made as a drop-pattern or otherwise.	3604	23rd Oct. 1812	Thomas Pardoe.
Making carpets [ <i>weaving</i> ] - - - - -	3613	31st Oct. 1812	Thomas Lea.
Weaving Scotch or Kidderminster carpets, thereby producing a firmer texture and larger patterns than by the methods hitherto known.	3624	19th Dec. 1812	John Hanbury, senior.
Machinery for making Brussels and cut-pile commonly called Wilton carpeting, figured rugs, and imperial rugs.	4290	31st Aug. 1818	Joseph Bowyer.
Manufacture for carpeting [ <i>using long flax and tow for warp and weft</i> ].	4384	22nd June 1819	Alexander Hadden.
Manufacturing carpets; "Prince's patent union carpet" [ <i>weaving</i> ].	5254	15th Sept. 1825	Adam Eve.
Manufacturing carpets [ <i>weaving Venetian</i> ] - - -	5501	26th May 1827	Thomas Clarke.
Method or manufacture which facilitates the production of regular figures or patterns on different fabrics, particularly velvet, velvet-pile, and Brussels, Wilton, and Turkey carpets [ <i>weaving; see also "PRINTING"</i> ].	6307	8th Sept. 1832	Richard Whytock.
Manufacture of carpets, rugs, and other fabrics [ <i>employing a thread composed partly of fur and partly of other fibrous material, or a thread of New Zealand flax mixed with other materials</i> ].	7608	4th April 1838	William Angus Robertson.
Manufacturing carpets, rugs, and other napped fabrics.	7620	21st April 1838	Moses Poole.
Manufacture of carpets and other similar woven fabrics, the improvement being effected by the introduction of a certain article of commerce not hitherto so employed or used in such manufacture [ <i>using silk for producing figures on carpets</i> ].	7711	27th June 1838	Richard Badnall.
Process and apparatus for the production of regular figures or patterns in carpets and other fabrics [ <i>improvements on patent No. 6307</i> ] - - -	7986	1st March 1839	{ Richard Whytock. George Clink.
Machinery for a new and improved mode of manufacturing woollen, silk, cotton, linen, and other fabrics [ <i>weaving carpets, rugs, shawls, and similar fabrics, by using narrow strips of cloth as weft, in the manner of chenille weft</i> ] - - - - -	8169	25th July 1839	{ James Templeton. William Quigley.
Manufacture of carpets and rugs [ <i>weaving</i> ] - - -	8182	1st Aug. 1839	John Humphries.
Looms for weaving carpets and other fabrics - - -	8553	24th June 1840	William Wood.
Looms for weaving [ <i>carpet-looms</i> ] - - - - -	8725	27th Nov. 1840	Miles Berry.
Preparing designs and dyeing the materials to be used in the weaving and manufacture of Kidderminster carpets, and for producing patterns thereon in a manner not before used or applied in the process of weaving and manufacturing such carpets [ <i>using weft threads dyed in parti-colours</i> ].	8740	16th Dec. 1840	Hugh Graham.
Making, manufacturing, or producing carpets and hearth-rugs [ <i>weaving; see also "PRINTING"</i> ].	8811	26th Jan. 1841	Edward Henshall.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;C.—continued.</b>			
Manufacture of Kidderminster carpeting - -	8950	6th May 1841	Hugh Graham.
Carpets, rugs, or other napped fabrics - - -	9012	28th June 1841	Christopher Nickels.
Weaving carpeting and other figured fabrics - -	9329	26th April 1842	William Wood.
Improvements in or applicable to looms for weaving carpets and various other fabrics in which raised loops or a raised pile constitute the face or figure of the fabric.	9625	11th Feb. 1843	John Hill.
Manufacture of matting and other textile fabrics from vegetable matters not before used for the purpose [ <i>filaments prepared from convolvuli</i> ].	9863	10th Aug. 1843	Richard Archibald Brooman.
Manufacture of carpets and other piled fabrics -	10,337	3rd Oct. 1844	Albert Daniel Hindley.
Manufacture of carpets and other piled fabrics -	10,659	6th May 1845	Albert Daniel Hindley.
Manufacture of carpets, rugs, and piled fabrics -	10,879	10th Oct. 1845	James Taylor.
Manufacturing piled fabrics - - - - -	11,050	20th Jan. 1846	William Newton.
Looms for weaving certain kinds of carpets or other fabrics of like character.	11,128	11th March 1846	Erastus B. Bigelow.
Method or manufacture which facilitates the production of regular figures or patterns on different fabrics, particularly Brussels, Wilton, and Turkey carpets [ <i>improvements on patents 6307 and 7986, for weaving and printing</i> ].	11,328	11th Aug. 1846	Richard Whytock.
Manufacture of carpets and other similar articles [ <i>weaving</i> ].	11,963	16th Nov. 1847	George Price Simcox.
Weaving carpets - - - - -	12,167	30th May 1848	William Wood.
Manufacturing Brussels tapestry, Turkey and velvet or cut-pile carpets and rugs, by which method less warp is required and perfect and regular figures or patterns are produced [ <i>weaving or binding together the warp threads by a few ends of weft, to facilitate the printing of the warp, which is afterwards beamed and woven, the few ends of weft being withdrawn</i> ].	12,388	21st Dec. 1848	William Curtain.
Manufacture of piled fabrics - - - - -	12,524	19th March 1849	Alfred Vincent Newton.
Production of figured fabrics [ <i>carpets</i> ] - - -	12,545	28th March 1849	Frederick William Norton.
Manufacture of woollen and other fabrics [ <i>looped piled fabrics, when woven weft is employed</i> ].	12,671	26th June 1849	Christopher Nickels.
Manufacture of carpets and other fabrics [ <i>weaving, and withdrawing and cutting out the rods</i> ].	12,937	23rd Jan. 1850	William Wood.
Manufacture of woollen and other fabrics [ <i>weaving terry or uncut piled fabrics; making piled fabrics by grinding off the tops of the loops</i> ].	12,938	23rd Jan. 1850	Christopher Nickels.
Manufacturing figured fabrics, principally designed for the production of carpeting [ <i>by means of a printed weft</i> ].	12,954	29th Jan. 1850	James Templeton.
Manufacturing certain woven fabrics [ <i>carpets</i> ] -	13,263	26th Sept. 1850	Alfred Vincent Newton.
Weaving carpets and other fabrics [ <i>from printed yarns</i> ] - - - - -	13,267	28th Sept. 1850	{ Joseph Crossley. George Collier. James Hudson.
Manufacture of carpets and other fabrics [ <i>weaving, and introducing and withdrawing the wires</i> ].	13,277	10th Oct. 1850	William Wood.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Manufacture of woollen and other fabrics [ <i>weaving Brussels carpeting and other terry fabrics</i> ].	<a href="#">13,364</a>	23rd Nov. 1850	Christopher Nickels.
Manufacture of carpets and other fabrics [ <i>weaving and sharpening the cutters while in motion</i> ] -	<a href="#">13,402</a>	12th Dec. 1850	{ Joseph Baldwin. George Collier.
Manufacturing carpets and other fabrics [ <i>weaving; see also "PRINTING"</i> ].	<a href="#">13,445</a>	11th Jan. 1851	William Melville.
Weaving textile goods or fabrics [ <i>Brussels carpets and other looped piled fabrics; cutting the loops of the pile by circular cutters</i> ].	<a href="#">13,467</a>	21st Jan. 1851	Robert William Sievier.
Manufacture of carpets, rugs, and other fabrics [ <i>weaving from printed or parti-coloured garns</i> ].	<a href="#">13,474</a>	28th Jan. 1851	Joseph Crossley.
Manufacture of textile fabrics [ <i>weaving a double or single faced piled cloth</i> ].	<a href="#">13,572</a>	24th March 1851	Samuel Holt.
Machinery for manufacturing textile and woven fabrics, and other articles of fibrous or filamentous materials; improvements in such fabrics and articles [ <i>weaving carpets, rugs, &amp;c., by bobbin-net machinery</i> ] - - - -	<a href="#">13,596</a>	17th April 1851	{ Thomas Keely. William Wilkinson.
Weaving textile fabrics [ <i>Kidderminster carpets</i> ] -	<a href="#">13,650</a>	29th May 1851	Robert William Sievier.
Manufacture of carpets and rugs [ <i>weaving</i> ] - -	<a href="#">13,766</a>	9th Oct. 1851	Henry Curzon.
Manufacture of chenille and other piled fabrics -	<a href="#">13,809</a>	13th Nov. 1851	{ William Smith. William Dickinson. Thomas Peake.
Manufacture and ornamenting of carpets, rugs, and other fabrics [ <i>combining the use of the jacquard apparatus with printed warps, and using yarns of silk-waste</i> ].	<a href="#">13,841</a>	4th Dec. 1851	William Wood.
Manufacture of knitted, looped, and other elastic fabrics [ <i>piled fabrics</i> ] - - - -	<a href="#">13,880</a>	24th Dec. 1851	{ Christopher Nickels. Thomas Ball. John Woodhouse Bagley.
Manufacture of carpets and other fabrics [ <i>carpet-ooms; apparatus for introducing wires; cutting the pile of carpets</i> ].	<a href="#">13,888</a>	31st Dec. 1851	George Collier.
Machinery for weaving Brussels tapestry, velvet carpeting, and other piled fabrics.	<a href="#">13,948</a>	31st Jan. 1852	Alfred Vincent Newton.
Manufacture of carpets [ <i>weaving</i> ] - - - -	<a href="#">13,952</a>	2nd Feb. 1852	William Fawcett.
Machinery for manufacturing looped, terry, or other similar fabrics.	<a href="#">13,978</a>	23rd Feb. 1852	Joseph Denton.
Weaving carpets and other fabrics; machinery or apparatus employed therein.	<a href="#">14,011</a>	8th March 1852	John Henry Johnson.
Manufacture of carpets, velvets, and other fabrics [ <i>weaving</i> ].	<a href="#">14,020</a>	8th March 1852	Pierre Henri Bareaux.
Machinery for weaving fabrics [ <i>pile fabrics</i> ] - -	<a href="#">14,082</a>	28th April 1852	William Newton.
Manufacture of carpets and other fabrics; apparatus or machinery connected therewith [ <i>weaving</i> ] -	<a href="#">14,108</a>	1st May 1852	William Wood.
Manufacture of certain descriptions of carpets [ <i>weaving Brussels, cut-pile, Kidderminster, Venetian, and others of a similar description, by using jute or jute hemp</i> ].	<a href="#">14,178</a>	24th June 1852	Alexander Johnston Warden.
Looms for weaving and manufacture of terry fabrics [ <i>mode of introducing wire used in carpet-weaving</i> ] - - - -	<a href="#">14,204</a>	6th July 1852	{ Harold Potter. Matthew Smith.
Manufacture of carpets, rugs, and other similar fabrics [ <i>introducing and withdrawing the wires in weaving</i> ] - - - -	<a href="#">14,248</a>	31st July 1852	{ John Gerald Potter. Matthew Smith.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
<b>XI.—Cut-pile Fabrics—</b> <i>[Velvets, Plushes, and Fustians].</i>			
Making silk shag suitable for garments, from silk waste prepared by teasel or rowing cards.	185	7th Nov. 1672	Edmond Blood.
Making upon a stocking-frame velvet-shag and brocaded silk, plain, cut, figured, and in gold and silver - - - - -	877	2nd June 1767	{ Henry Hardy. Thomas Davies. Andrew Dorila.
Making cloth of cotton weft on woollen, linen, or cotton warp, so as to have a shag or pile.	1024	15th Oct. 1772	Richard Williams,
Making velveteens - - - - -	1123	25th March 1776	James Woolstenholme.
Weaving and cutting the brocade floating-silk on the face of velvet-shag, satin-cord, tabby-chain, lustring or mixtures, plain, flowered, or spotted, with plush tissue, with gold and silver, and with silk mixed to form designs.	1175	31st Dec. 1777	Stephen Dolignon.
Manufacturing shag or plush - - - - -	2681	21st Feb. 1803	Timothy Cobb.
Manufacture of cotton-pile goods or fustians - - -	2694	5th April 1803	William Boond.
Manufacturing corded and ribbed shags or plushes composed of different materials.	2704	17th May 1803	Joshua Green.
Machinery for making velvets and other cut works <i>[weaving two pieces at once, face to face]</i> - - -	5010	7th Oct. 1824	Stephen Wilson.
Working, weaving, or preparing silk and other fibrous materials used in making hats, bonnets, shawls, and other articles - - - - -	5292	17th Nov. 1825	{ Edward Bowring. Robert Stamp.
Manufacture to facilitate the production of regular figures or patterns on different fabrics, particularly velvet and velvet-pile <i>[printing the yarns, and producing the pattern by plain weaving]</i> .	6307	8th Sept. 1832	Richard Whytock.
Manufacture of certain kinds of corded fustians to be woven in diagonal cords, from cotton-wool and other fibrous materials - - - - -	6628	16th June 1834	{ Joseph Jones. Thomas Mellodew.
Machinery for manufacturing velvets and certain other fabrics.	7122	18th June 1836	Louis Gachet.
Manufacturing plush of silk or other fibrous materials.	7930	11th Jan. 1839	John Ashton.
Looms for weaving and cutting asunder double-piled cloth.	8801	19th Jan. 1841	Frederick Steiner.
Improved description of fabric suitable for making friction-gloves, horse-brushes, and other articles requiring rough surfaces <i>[produced by weaving in a similar manner to velvet, the pile being horse-hair, and cut so as to form the rough surface]</i> .	8830	3rd Feb. 1841	William Hancock, junior.
Weaving figured fabrics <i>[velvets]</i> - - - - -	9573	28th Dec. 1842	Thomas Thompson.
Improvements in or applicable to looms for weaving carpets and various other fabrics in which raised loops or a raised pile constitute the face or the figure of the fabric.	9625	11th Feb. 1843	John Hill.
Manufacture of silk plushes, silk velvets, and worsted and other plushes.	10,534	24th Feb. 1845	Joseph Howard.
Weaving or manufacturing piled or napped cloths or fabrics <i>[velvets]</i> .	11,054	20th Jan. 1846	John Walker.
Manufacture to facilitate the production of regular figures or patterns on different fabrics, particularly velvet and velvet-pile <i>[improvements on patent No. 6307]</i> .	11,328	11th Aug. 1846	Richard Whytock.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Manufacturing terry and cut-piled fabrics [ <i>velvets</i> ] -	<a href="#">11,338</a>	17th Aug. 1846	Moses Poole.
Looms for weaving velvets and other piled goods -	<a href="#">11,399</a>	8th Oct. 1846	Robert Wilson.
Manufacture of velvets, velveteens, and other similar fabrics - - - - -	<a href="#">12,309</a>	2nd Nov. 1848	{ Charles William Kessel-meyer. Thomas Melldew.
Manufacturing velvets, by which method less warp is required, and perfect and regular figures or patterns are produced.	<a href="#">12,388</a>	21st Dec. 1848	William Curtain.
Manufacture of cut-piled fabrics, and machinery applicable thereto.	<a href="#">12,430</a>	20th Jan. 1849	Henry Bernoulli Barlow.
Manufacture of woollen and other fabrics [ <i>cut-pile fabrics</i> ].	<a href="#">12,671</a>	26th June 1849	Christopher Nickels.
Machinery for weaving terry or looped fabrics [ <i>plushes, velvets, carpets, &amp;c., with the pile of unequal lengths</i> ].	<a href="#">12,948</a>	29th Jan. 1850	Richard Roberts.
Machinery or apparatus and operations connected with the manufacture of cotton-wool, silk, and other fibrous substances, and the application of certain materials to the manufacture of textile fabrics [ <i>using spun silk as warp in the manufacture of hat-plush and velvet</i> ] - - - - -	<a href="#">13,072</a>	7th May 1850	{ John Tatham. David Cheetham.
Manufacture of hat-plush; machinery employed in such manufacture.	<a href="#">13,380</a>	2nd Dec. 1850	Thomas Watson.
Manufacture of textile fabrics [ <i>weaving velvets and other piled fabrics</i> ] - - - - -	<a href="#">13,381</a>	2nd Dec. 1850	{ Richard Shiers. James Heginbottom.
Manufacturing velvets or other piled fabrics - - -	<a href="#">13,426</a>	26th Dec. 1850	William Hodgson Gratrix.
Machinery for weaving [ <i>terry and cut-pile fabrics</i> ] -	<a href="#">13,583</a>	24th March 1851	Frederick William Mowbray.
Fabrics; weaving; machinery and apparatus for weaving, &c. [ <i>weaving woollen cords and velveteens</i> ] - - - - -	<a href="#">13,633</a>	14th May 1851	{ Luke Smith. Mark Smith. Matthew Smith.
Manufacture of textile fabrics [ <i>weaving "cut cords"</i> ]	<a href="#">13,719</a>	14th Aug. 1851	John Plant.
Weaving textile fabrics [ <i>cords and imperials</i> ] - -	<a href="#">13,818</a>	15th Nov. 1851	William Hamer.
Manufacture of velvets and other fabrics - - -	<a href="#">14,020</a>	8th March 1852	Pierre Henri Bareau.
Manufacture of certain kinds of woollen fabrics [ <i>to resemble velvets</i> ].	<a href="#">14,209</a>	6th July 1852	James Murdoch.
Machinery for weaving cotton-wool and other fibrous substances [ <i>double cut-pile fabrics</i> ].	<a href="#">14,256</a>	10th Aug. 1852	Edward Joseph Hughes.
<b>XII.—Lace, plain and figured.</b>			
Weaving and working point-laces after the manner of point-de-Buise and point-d'Espagne - - -	<a href="#">182</a>	30th July 1675	{ William Fanshaw. Gabriel Cox. Rebecca Croxton.
Making Flanders dolberline and all other laces of woollen, to be used for dresses at the burial of the dead, and according to an act for burying in woollen.	<a href="#">204</a>	4th Oct. 1678	Amy Potter.
Machine for making all kinds of lace - - - -	1073	22nd June 1774	Peter Brotherston.
Making lace and open work in silk, cotton, thread, and worsteds; engine, with a set of working needles affixed; fixing such engine to a stocking-frame for making lace and open work mits, gloves, caps, handkerchiefs, aprons, stocking-pieces, and other things worked upon the stocking-frame.	1192	16th May 1778	Thomas Taylor.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Manufacture of French or wire-ground lace - - -	1235	29th Oct. 1779	Arthur Else.
Piece of machinery to be added to a stocking-frame, for making lace,—“Brussels or double-ground lace,”—for shades, aprons, handkerchiefs, caps, mits, gloves, purses, waistcoats, shawls, and other sorts of open work.	1238	24th Nov. 1779	Joseph Harvey.
Machines for making Brussels point-lace and other open-worked lace.	1282	5th March 1781	John Morris.
Machine to fix to a stocking-frame for making net or open work.	1294	1st June 1781	Thomas Frost.
Machine for making figured lace and net-work -	1439	28th June 1784	{ Robert Frost. Thomas Frost.
Machine for making plain and figured lace, chain-lace, nets, and net-work.	1445	28th July 1784	Richard March.
Machine for making, twisting, and looping open-work, bobbin-lace, also making lace and open-work, as mits, gloves, caps, handkerchiefs, aprons, stocking-pieces, or other work that may be manufactured on the said machine.	1820	19th July 1791	William Dawson.
Machine for making lace-work and net-work in gold, silver, brass, iron, silk, mohair, cotton, thread, worsted, yarn, and hemp.	1880	15th May 1792	Robert Barber.
Machine to attach to Vandyke knitting-frames, for manufacturing lace or net-work of various figures and qualities, with thread, silk, cotton, worsted, or other materials.	2760	14th May 1804	Robert Brown.
Machinery and apparatus to be annexed to warp-frames, whereby these frames will work, make, or manufacture all kinds of thread lace - - }	2788	17th Oct. 1804	{ Samuel Caldwell. John Heathcoat.
Stops for working the bolt-wheels of the machine attached to the warp lace-frame, to give motion to the said machine; and a rotatory spindle, projections, and levers, to be affixed to the frame itself to give motion to the same, for the purpose of manufacturing lace or net-work of various figures and qualities.	3006	3rd Feb. 1807	Simon Orgill.
Machine for making bobbin-lace - - - -	3151	14th July 1808	John Heathcoat.
Machine for making bobbin-lace - - - -	3216	20th March 1809	John Heathcoat.
Machines for the manufacture of bobbin-lace or twist-net.	3434	24th April 1811	John Brown.
Making spots in lace or net-work - - - -	3596	14th Aug. 1812	Jonas Renshaw.
Machine for making bobbin-lace - - - -	3673	29th March 1813	John Heathcoat.
Texture of bobbin-lace - - - -	3931	22nd June 1815	Charles Silvester.
Machinery to be used with machines for making } bobbin-lace net - - - - }	4063	30th Sept. 1816	{ Charles Lacy. John Lindley.
Machinery for making bobbin-net - - - -	4078	1st Nov. 1816	John Heathcoat.
Machines for making bobbin-net; manufacturing certain parts of such machines.	4917	9th March 1824	John Heathcoat.
Machines for making bobbin-net; manufacturing certain parts of such machines.	4918	9th March 1824	John Heathcoat.
Combining machinery used in the manufacture of lace worked by power. [See “BUILDING.”]	4919	9th March 1824	John Heathcoat.
Making and working machines used in the manufacture of bobbin-net.	4920	10th March 1824	William Darker Mosley.
Machinery for making bobbin-net - - - -	4921	15th March 1824	William Morley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Machinery for making bobbin-net lace - - -	4925	20th March 1824	John Lingford.
Machinery for making bobbin-net or Buckinghamshire lace-net.	5025	1st Oct. 1824	John Lingford.
Machinery for making bobbin-net lace - - -	5067	11th Jan. 1825	{ William Henson. William Jackson.
Machinery for making bobbin-net - - -	5080	12th Jan. 1825	John Heathcoat.
Producing figures or ornaments in or upon a certain kind of goods made from silk, cotton, flax, thread, or yarn [ <i>producing embroidered devices upon bobbin-net to look like needlework</i> ].	5103	25th Feb. 1825	John Heathcoat.
Machinery for making bobbin-net - - -	5125	15th March 1825	{ Henry Nunn. George Freeman.
Pusher bobbin-net machine - - -	5179	31st May 1825	Joseph Crowder.
Pusher twist or bobbin-net machine - - -	5207	8th July 1825	{ John Day. Samuel Hall.
Machinery for making bobbin or twist net - -	5413	4th Oct. 1826	John Riste.
Machinery for making bobbin or twist net lace -	5599	9th Jan. 1828	William Morley.
Machinery for manufacture of bobbin-net lace -	5622	3rd March 1828	John Levers.
Manufacture of hobbin-net lace [ <i>from single thread sized</i> ].	5729	10th Dec. 1828	Thomas Lawes.
Machinery for making bobbin-net lace - - -	5741	18th Dec. 1828	John Levers.
Machinery for making lace - - -	5826	5th Aug. 1829	Thomas Bailey.
Machinery for making bobbin-net lace - - -	5940	8th June 1830	John Levers.
Machinery for making lace called bobbin-net - -	6059	13th Jan. 1831	{ John Blackwell. Thomas Alcock.
Machinery for making bobbin-net - - -	6070	3rd Feb. 1831	William Sumner.
Machinery for making bobbin-net - - -	6077	15th Feb. 1831	{ Thomas Bailey. Charles Bailey.
Machinery for making, figuring, or ornamenting lace or net and such other articles to which the said machinery may be applicable.	6084	21st Feb. 1831	William Sneath.
Machinery used in making bobbin or twist lace net.	6173	3rd Oct. 1831	John Heathcoat.
Machinery for making bobbin-net lace - - -	6197	15th Dec. 1831	Thomas Alcock.
Machinery for the manufacture of bobbin-net lace -	6208	31st Dec. 1831	William Sneath.
Ornamenting, embroidering, or working devices on lace, net, and other fabrics.	6222	16th Feb. 1832	John Heathcoat.
Machinery for ornamenting and producing devices upon lace net.	6226	22nd Feb. 1832	George Freeman.
Machinery for making bobbin-net lace - - -	6229	23rd Feb. 1832	William Crofts.
Machinery for making net and point-net - -	6240	8th March 1832	{ Henry Warner. Charles Hood. Benjamin Abbott.
Machinery for making bobbin-net lace - - -	6343	8th Dec. 1832	Thomas Alcock.
Machinery for making bobbin-net lace - - -	6344	8th Dec. 1832	Thomas Alcock.
Machinery for manufacturing bobbin-net lace -	6348	17th Dec. 1832	John Langham.
Machinery for manufacturing bobbin-net lace -	6349	18th Dec. 1832	William Crofts.
Machinery for producing lace in various breadths with edges or quilling.	6354	26th Dec. 1832	William Henson.
Machinery for manufacturing bobbin-net laces -	6355	26th Dec. 1832	William Henson.
Machinery for manufacturing bobbin-net lace -	6382	11th Feb. 1833	William Crofts.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Combining together machinery for making bobbin-net.	6383	11th Feb. 1833	William Crofts.
Machinery used in making bobbin-net lace for producing ornamental lace - - - - }	6392	27th Feb. 1833	{ Henry William Nunn. George Mowbray. Richard Allabone.
Machinery for manufacturing bobbin-net lace -	6397	14th March 1833	William Henson.
Warp machinery employed for manufacture of lace and other substances.	6399	21st March 1833	William Herbert.
Machinery for manufacturing bobbin-net lace -	6412	15th April 1833	{ James Smith, junior. Francis Smith.
Machinery for making bobbin-net - - - -	6423	17th May 1833	Louis Paul Lefort.
Machinery for making bobbin-net - - - -	6447	4th July 1833	William Crofts.
Machinery used in the manufacture of bobbin-net -	6471	14th Sept. 1833	John Heathcoat.
Manufacturing certain kinds of embroidered lace -	6583	27th March 1834	Henry William Nunn.
Machinery for making bobbin-net lace - - - -	6618	27th May 1834	William Crofts.
Texture of bobbin-net or twist-net, also machinery for producing lace-net with the said improved texture - - - - }	6621	5th June 1834	{ John Bertie. James Gibbons.
Machinery for making ornamental bobbin-net lace -	6660	13th Aug. 1834	James Pedder.
Manufacture of figured bobbin-net lace - - - -	6683	25th Sept. 1834	Samuel Draper.
Machinery for making ornamented bobbin-net lace -	6717	20th Nov. 1834	William Crofts.
Machinery for making ornamented bobbin-net lace -	6739	23rd Dec. 1834	William Crofts.
Warp machinery employed in the manufacture of lace and other fabrics - - - -	6748	22nd Jan. 1835	{ John Streets, junior. Thomas Whiteley.
Machinery for making bobbin-net lace - - - -	6764	12th Feb. 1835	Thomas Alcock.
Machinery for making bobbin-net lace - - - -	6778	27th Feb. 1835	{ John Levers. James Pedder.
Manufacturing the ornamented parts of lace; producing ornamental or embroidered lace.	6804	3rd April 1835	Henry William Nunn.
Making or manufacturing lace - - - -	6833	13th May 1835	{ Henry Dunington. William Copestake.
Machinery for making ornamented bobbin-net lace -	6854	26th June 1835	William Crofts.
Machinery for making ornamented bobbin-net lace -	6871	30th July 1835	William Crofts.
Machinery for making ornamented bobbin-net lace -	6896	1st Oct. 1835	William Samuel Henson.
Machinery for making bobbin-net lace, parts of which are for making ornamented bobbin-net lace.	6921	4th Nov. 1835	William Crofts.
Machinery for embroidering bobbin-net lace, or other fabrics made from silk, cotton-wool, flax, or hemp - - - - }	6931	14th Nov. 1835	{ James Cropper. Thomas Brown Milnes.
Machinery for making bobbin-net lace - - - -	6936	2nd Dec. 1835	Thomas Robert Sewell.
Machinery for manufacturing bobbin-net lace -	6937	3rd Dec. 1835	{ James Cropper. Thomas Brown Milnes.
Machinery for making ornamental bobbin-net lace -	6950	9th Dec. 1835	John Bertie.
Machinery for making ornamented bobbin-net lace and other fabrics.	7032	17th March 1836	Thomas Alcock.
Machinery for making figured or ornamented bobbin-net lace.	7064	21st April 1836	James Pedder.
Manufacturing certain kinds of embroidered lace;—partly applicable to other purposes.	7065	21st April 1836	Henry William Nunn.
Machinery by aid of which thread-work ornaments of certain kinds can be formed in net or lace by bobbin-net machinery.	7079	3rd May 1836	William Sneath.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Machinery for making ornamented bobbin-net lace	7090	11th May 1836	Richard Birkin.
Making or manufacturing lace - - - -	7132	22nd June 1836	Henry Dunington.
Machinery for making lace or other fabrics; "warp machinery."	7172	15th Aug. 1836	Thomas Gauntley.
Machinery for making bobbin-net lace or twist-net, parts of which are for making ornamented bobbin-net lace or twist-lace.	7190	22nd Sept. 1836	William Crofts.
Machinery for making bobbin-net or twist lace -	7219	8th Nov. 1836	{ James Smith. Francis Smith.
Manufacture of figured or ornamented bobbin-net or twist lace or other fabrics.	7345	18th April 1837	William Crofts.
Manufacturing, producing, forming, or fashioning ornaments or ornamented work or figures upon or applicable to net, &c. &c., and machinery, tools, implements, or apparatus to be used in manufacturing, producing, forming, fashioning, and applying such ornaments or ornamented work.	7359	4th May 1837	John Heathcoat.
Manufacture of ornamented lace - - - -	7473	14th Nov. 1837	Robert White.
Producing ornamented lace or weavings - -	7491	27th Nov. 1837	Samuel Draper.
Manufacture of certain descriptions of lace and other ornamental fabrics.	7527	4th Jan. 1838	William Henry Nunn.
Manufacture of lace - - - - -	7534	11th Jan. 1838	John Thornhill.
Manufacture of lace - - - - -	7638	10th May 1838	William Crofts.
Warp machinery, and fabrics produced by warp machinery.	7826	8th Oct. 1838	Henry Dunington.
Machinery used in making ornamented bobbin-net lace, and lace or net of various sorts.	8038	20th April 1839	William Crofts.
Warp machinery - - - - -	8262	7th Nov. 1839	{ Thomas Whiteley. John Whiteley.
Machinery for manufacture of figured bobbin-net or lace - - - - -	8362	28th Jan. 1840	{ James Smith. Francis Smith.
Machinery for making ornamented bobbin-net twist lace, and other ornamented looped or woven fabrics.	8430	16th March 1840	William Crofts.
Manufacture of ornamented twist lace and looped fabrics.	8635	21st Sept. 1840	Samuel Draper.
Machinery for the purpose of making figured or ornamental bobbin-net or twist-lace and other ornamental fabrics, looped or woven.	8690	7th Nov. 1840	William Crofts.
Machinery for making and ornamenting bobbin-net lace.	8955	10th May 1841	Hooton Deverill.
Machinery for making lace and other fabrics traversed, looped, or woven - - - - -	9006	29th June 1841	{ John Chater. Richard Gray.
Machinery for making figured fabrics in warp and bobbin-net lace machines - - - - -	9061	4th Sept. 1841	{ John Boot. John King.
Machinery used in the manufacture of bobbin-net or twist lace.	9133	2nd Nov. 1841	Moses Poole.
Machinery for making lace or other netted fabrics -	9290	8th March 1842	William Catford.
Manufacture of figured or ornamented lace - -	9467	8th Sept. 1842	William Crofts.
Fabrics produced by lace machinery - - -	9472	15th Sept. 1842	{ Christopher Nickels. Caleb Bedells.
Manufacture of fabrics by lace machinery - -	9629	11th Feb. 1843	Christopher Nickels.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Manufacture of ornamented net or lace - - -	<u>9846</u>	28th Feb. 1843	{ John Heathcoat. [ Ambrose Brewin.
Manufacture of ornamented lace or net - - -	<u>9894</u>	11th April 1843	Moses Poole.
Manufacture of fabrics made by lace machinery [introducing strands of india-rubber].	<u>9735</u>	22nd May 1843	Christopher Nickels.
Manufacture of fabrics produced in warp and lace machinery.	<u>10,088</u>	4th March 1844	Henry Dunington.
Manufacture of warp fabrics - - - - -	<u>10,153</u>	23rd April 1844	Henry Frearson.
Machinery for manufacturing ornamented bobbin-net or twist lace.	<u>10,163</u>	30th April 1844	William Clarke.
Manufacture of bobbin-net or twist-lace - - -	<u>10,214</u>	4th June 1844	Henry Boden.
Machinery for manufacturing ornamented bobbin-net or twist lace and other fabrics.	<u>10,350</u>	14th Oct. 1844	William Clarke.
Manufacture of figured or ornamented lace or net of various textures - - - - -	<u>10,370</u>	31st Oct. 1844	{ William Crofts. James Gibbons.
Manufacture of net-lace - - - - -	<u>10,381</u>	5th Nov. 1844	Henry Atkins.
Manufacture of lace and other weavings - - -	<u>10,390</u>	13th Nov. 1844	{ John Dearman Dunning- cliff. William Crofts. John Woodhouse Bagley.
Manufacture of ornamental lace or net - - -	<u>10,401</u>	25th Nov. 1844	William Clarke.
Manufacture of figured and ornamented lace or net and other fabrics - - - - -	<u>10,424</u>	7th Dec. 1844	{ John Fisher, junior. James Gibbons.
Manufacture of lace or net and other fabrics; machinery for figuring or ornamenting lace or net and other fabrics - - - - -	<u>10,716</u>	10th June 1845	{ John Fisher, junior. James Gibbons. Thomas Roe.
Manufacture of warp fabrics - - - - -	<u>11,020</u>	24th Dec. 1845	{ John Dearman Dunning- cliff. William Bull Dexter.
Manufacturing lace and other fabrics by lace machinery - - - - -	<u>11,042</u>	17th Jan. 1846	{ William Clarke. William Vickers, junior.
Manufacture of lace and other fabrics - - -	<u>11,344</u>	20th Aug. 1846	William Crofts.
Manufacture of lace or weavings - - - - -	<u>11,644</u>	29th March 1847	John Fisher, junior.
Machinery for the manufacture of net-lace or other similar fabrics.	<u>12,572</u>	16th April 1849	William Edward Newton.
Manufacture of lace and other fabrics - - -	<u>12,897</u>	15th Dec. 1849	James Oldknow.
Lace and other weaving - - - - -	<u>13,122</u>	11th June 1850	{ John Dearman Dunning- cliff. [ John Woodhouse Bagley.
Machinery for manufacturing textile and woven fabrics and other articles of fibrous or filamentous materials; improvements in such fabrics and articles [bobbin-net lace machines] - - -	<u>13,596</u>	17th April 1851	{ Thomas Keely. William Wilkinson.
Manufacture of lace and other fabrics - - -	<u>13,826</u>	22nd Nov. 1851	Enoch Statham.
<b>XXX.—Stocking-net, Looped, and Knitted Fabrics.</b>			
Machine furnished with a set of turning needles, and to be fixed to a stocking-frame, for making turned ribbed stocking-pieces and other goods usually manufactured upon stocking-frames -	<u>722</u>	19th April 1758	{ Jedediah Strutt. William Woollatt.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Machine furnished with a set of turning needles, to be fixed to a stocking-frame, for making turned ribbed stocking-pieces and other goods usually manufactured upon stocking-frames -	<a href="#">734</a>	10th Jan. 1759	{ Jedediah Strutt. William Woollatt.
Engine or machine which is to be fixed to a stocking-frame, for making eyelet-holes or network in silk, thread, cotton, or worsted, as mits, gloves, hoods, aprons, handkerchiefs, and other goods usually manufactured on stocking-frames	<a href="#">807</a>	28th March 1764	{ Thomas Morris. John Morris. John Betts. William Betts.
Knitting-machine for making and knitting stockings, stocking-pieces, and other goods usually made on stocking-frames - - - -	<a href="#">830</a>	15th June <a href="#">1765</a>	{ William Taylor. Francis Jones.
Machine for making women's mits and gloves -	<a href="#">856</a>	13th Aug. 1766	Daniel Augustin Marc-nard.
Engine or machine which when fixed to a stocking-frame, will make any sort of work usually manufactured on such frames.	<a href="#">925</a>	11th May 1769	Samuel Wise.
Machine or engine, on which is fixed a set of sliders, and which engine is fixed to a stocking-frame, for shading and brocading, working and making flowers in gold, silver, silk, worsted, cotton, and thread, on silk, cotton, thread, and worsted-pieces for waistcoats, breeches, stockings, gloves, and mits, and all goods usually manufactured on stocking-frames - - - -	<a href="#">940</a>	16th Nov. 1769	{ John Porter. Sinckler Porter. Josiah Crane.
Manufacture of stocking or hose-gloves, night-caps, waistcoat or breeches pieces, to be wove on a stocking-frame, or knit with needles.	<a href="#">971</a>	16th Nov. 1770	Peter Vallotton.
Machine for making knitted, knotted, or double-looped work for stocking, or breeches-pieces, and gloves of silk, thread, cotton, and worsted, either together or separate - - - -	<a href="#">991</a>	25th June 1771	{ Richard March. William Horton.
Making and manufacturing double coarse frame-work stockings, mits, gloves, caps, and pieces for coats, waistcoats, and breeches upon a stocking-frame, in gold, silver, silk, and mohair, and carding, shearing, trimming, and dressing such goods - - - -	<a href="#">1098</a>	22nd April 1775	{ Thomas Trentam. Francis Jones.
Machine to be fixed to a stocking-frame for making various sorts of knotted and double-looped work.	<a href="#">1120</a>	16th March 1776	William Horton.
Machine or engine for weaving hose, caps, mits, pieces, gloves, and other hosiery goods, both ribbed and plain, in silk, cotton, and wool.	<a href="#">1161</a>	14th July 1777	William Betts.
Working and knitting frame-work milled and napped in imitation of ratteen, and consisting of English or Spanish wool, or both mixed, and in any colour or pattern.	<a href="#">1167</a>	15th Aug. 1777	John Hummel.
Machine or engine for making stocking, waistcoat, and breeches pieces, caps, gloves, mits, purses, and all sorts of hosiery, in silk, cotton, thread, and worsted - - - -	<a href="#">1178</a>	3rd Feb. 1778	{ William Baker. Thomas Baker.
Machine to be fixed to a stocking-frame for making various sorts of single and double crossed, looped, and inlaid work.	<a href="#">1188</a>	16th March 1778	Richard March.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Engine or machine in which is fixed a complete set of working needles, and to be added to a stocking-frame, for making lace and open work, as mits, gloves, caps, handkerchiefs, aprons, stocking-pieces, and other work usually manufactured on the stocking-frame.	1192	16th May 1778	Thomas Taylor.
Manufacturing goods of linen, cotton, and other commodities, on a stocking-frame by double cross-stitch or basket-work, inlaid with gold and silver, for coats, waistcoats, and breeches, and for stockings, gloves, and other apparel.	1219	10th April 1779	John Ward.
Machine for knitting without jacks or sinkers - -	1231	28th July 1779	Samuel Eaton.
Machine to be fixed to a stocking-frame, for making open work in silk, cotton, thread, worsted, or other materials.	1294	1st June 1781	Thomas Frost.
Machine to be fixed to a stocking-frame for making a new sort of fastened platted-work in silk, cotton, thread, worsted, or other materials.	1300	27th July 1781	Robert Ash.
Laying threads, to make several breadths of work in one stocking-frame at the same time; engine for the purpose.	1348	19th Dec. 1782	John Hayne.
Machine to be fixed to a stocking-frame, for making patterns or figures in frame-work.	1397	14th Nov. 1783	John Hayne.
Method of making a more easy and perfect division in stocking-framework manufactures.	1417	4th Feb. 1784	John Webb.
Apparatus for making, inlaying, and working hose-pieces, and all other sorts of work usually made on the stocking-frame, of silk, worsted, thread, cotton, and other materials.	1517	19th Dec. 1785	Samuel Ball.
Making stockings, gloves, mits, socks, caps, coats, waistcoats, breeches, cloaks, and other clothing for persons afflicted with the gout, rheumatism, or other complaints requiring warmth; also making false or downy calves in stockings; linings for the same.	1670	22nd Sept. 1788	George Holland.
Platting goods manufactured on the stocking-frame, by a machine to be annexed to the frame for that purpose.	1701	29th Aug. 1789	John Wilson.
Manufacture of stockings, gloves, mits, socks, caps, coats, waistcoats, breeches, and other clothing where warmth is required.	1736	20th March 1790	George Holland.
Machinery to be added and affixed to a stocking-frame, for making elastic double-knit framework pieces for hose or stockings, waistcoats, breeches, gloves, purses, and various sorts of work, either with silk, cotton, cotton and silk, worsted, worsted and silk, thread, and yarn.	1777	29th Oct. 1790	Samuel Hague.
Engine or machine for making handkerchiefs, aprons, stocking-pieces, mits, gloves, caps, and other things of that sort.	1820	19th July 1791	William Dawson.
Stocking-frame both for plain and ribbed work -	1853	13th Feb. 1792	Alexander Buchan.
Improvements on and additions to the gigger stocking-frame, and the mode of using the same, whereby it is rendered applicable for manufacturing hard twisted thread or materials into double-looped stocking framework, and other kinds of manufacture.	1928	8th Dec. 1792	Robert Barber.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Gigger stocking-frame - - - - -	2175	25th March 1797	Robert Barber.
Machinery to be added and affixed to stocking-frames, for making elastic cross-stitch, platted hose-pieces, gloves, mits, and other articles, with silk, or silk platted upon cotton, worsted, or thread, or cotton platted upon worsted, cotton, or thread.	2325	4th July 1799	John Eaton.
Mode of sinking, locking-up the jacks, pressing, drawing back the needle-bar, and keeping up the jack, in frames for framework-knitting of silk, cotton, thread, and worsted.	2427	24th July 1800	Thomas Penn.
Machine to be added to a stocking-frame for expediting the manufacturing of fleecy hosiery and other kinds of hosiery.	2584	23rd Feb. 1802	George Holland.
Double-seaming and uniting the insides of stocking-network together - - - - -	2755	1st May 1804	{ Josiah Crane. Richard March.
Making stocking-stitch and warp-work - - -	2858	14th June 1805	Robert Barber.
Machinery and apparatus to be annexed to stocking-frames or other plain frames, for the purpose of manufacturing silk, cotton, mohair, worsted or other materials into plain hose, or any sort of plain piece work, by mechanical machinery and motion.	2879	21st Sept. 1805	Samuel Caldwell.
Knitting machine, or "tricoteur" - - - - -	3993	14th March 1816	Marc Isambard Brunel.
Stocking-frames - - - - -	4037	30th May 1816	John Heathcoat.
Stocking-frame, and method of making stockings and other goods usually made on the stocking-frame.	5373	23rd May 1826	Joseph Smith.
Machinery for making stockings, stocking-net, or frame-work knitting, warp-web, warp-net, and point-net - - - - -	6240	8th March 1832	{ Henry Warner. Charles Hood. Benjamin Abbott.
Machinery for knitting and producing a fabric similar to that of knitted stockings - - -	6926	10th Nov. 1835	{ John Wilde. Joseph Whitworth.
Machinery for manufacturing stocking fabric - -	7158	1st Aug. 1836	Nathan Bailey.
Machinery employed in manufacturing hosiery goods, or what is commonly called frame-work knitting.	7478	14th Nov. 1837	Joseph Birch Mather.
Machinery for frame-work knitting - - - -	7490	27th Nov. 1837	Thomas Moore.
Machinery for frame-work knitting - - - -	7545	20th Jan. 1838	Luke Barton.
Manufacture of hosiery and other fabrics [employing a thread composed partly of fur and partly of other fibrous material, or a thread of New Zealand flax mixed with other materials].	7608	4th April 1838	William Angus Robertson.
Machinery for making frame-work knitting or stocking fabrics.	7801	10th Sept. 1838	Henry Dunnington.
Machinery employed in making frame-work knitting or stocking fabrics.	8035	16th April 1839	Henry Dunnington.
Machinery for making frame-work knit or stocking fabrics.	8292	2nd Dec. 1839	Henry Dunnington.
Machinery for making frame-work knitting or stocking fabrics - - - - -	8351	21st Jan. 1840	{ William Coltman. Joseph Wale.
Stocking frames; machinery used in frame-work knitting.	8367	28th Jan. 1840	William Mottershaw Forman.
Machinery employed in frame-work knitting or stocking fabrics.	8524	30th May 1840	John Baptist Wickes.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Machinery employed in frame-work knitting or stocking fabrics - - - - -	<b>8619</b>	7th Sept. 1840	{ William Coltman. Joseph Wale.
Machinery employed in manufacturing hosiery goods, or frame-work knitting.	<b>8631</b>	17th Sept. 1840	William Bedford.
Machinery for making or producing certain fabrics with threads or yarns; applicable to various useful purposes [ <i>making looped or knitted fabrics</i> ].	<b>8708</b>	19th Nov. 1840	William Henson.
Machinery for producing stocking fabric or frame-work knitting.	<b>8719</b>	25th Nov. 1840	Oliver Louis Reynolds.
Stocking frames or frame-work knitting machinery -	<b>8832</b>	4th Feb. 1841	{ John Cartwright. Henry Warner. Joseph Haywood.
Machinery for producing knitted fabrics - - -	<b>8834</b>	8th Feb. 1841	James Thorburn.
Machinery for manufacturing stockings or other kinds of loop-work.	<b>8859</b>	23rd Feb. 1841	Charles Sneath.
Machinery for the manufacture of frame-work knitting, commonly called hosiery, and improvements in such frame-work knitting or hosiery.	<b>8864</b>	8th March 1841	James Johnson.
Machinery for the manufacture of knitted fabrics -	<b>8909</b>	31st March 1841	John Oram.
Manufacture of looped fabrics - - - - -	<b>8975</b>	5th June 1841	John Mee.
Apparatus for knitting - - - - -	<b>8985</b>	12th June 1841	John Anthony Tielens.
Machinery for producing knitted fabrics - - -	<b>9075</b>	8th Sept. 1841	James Thorburn.
Apparatus to be adapted to lace-making machinery, for making elastic fabric from silk, cotton, woollen, linen, and other fibrous materials.	<b>9246</b>	8th Feb. 1842	William Newton.
Apparatus for knitting - - - - -	<b>9317</b>	7th April 1842	John Anthony Tielens.
Machinery for frame-work knitting; frame-work knitted fabric.	<b>9599</b>	21st Jan. 1843	Uriah Clarke.
Machinery employed in the manufacture of frame-work knitted and looped fabrics.	<b>9883</b>	21st Sept. 1843	John Baptist Wickes.
Machinery for knitting stockings and other articles	<b>9930</b>	9th Nov. 1843	Charles Drury Hazen.
Machinery for manufacturing looped fabrics - -	<b>10,075</b>	24th Feb. 1844	Benjamin Bailey.
Manufacture of looped fabrics - - - - -	<b>10,133</b>	30th March 1844	{ John Biggs. Richard Harris, junior.
Machinery for the manufacture of frame-work, knitted, or netted work - - - - -	<b>10,316</b>	4th June 1844	{ William Ward. David Winfield Grocock.
Machinery for the manufacture of looped fabrics -	<b>10,388</b>	9th Nov. 1844	Richard Harris, senior.
Manufacture of braces [ <i>looped fabrics</i> ] - - -	<b>10,482</b>	21st Jan. 1845	Caleb Bedells.
Machinery for weaving [ <i>looped fabrics</i> ] - - -	<b>10,724</b>	18th June 1845	Richard Archibald Brooman.
Machinery for knitting - - - - -	<b>10,737</b>	25th June 1845	James Augustus Dorr.
Manufacturing looped fabrics - - - - -	<b>10,926</b>	5th Nov. 1845	Uriah Clarke.
Machinery for weaving and preparing materials for weaving [ <i>loom for weaving looped fabrics</i> ].	<b>11,100</b>	20th Feb.* 1846	Peter Claussen.
Knitting machinery - - - - -	<b>11,255</b>	22nd June 1846	William Cotton.
Machinery for knitting - - - - -	<b>11,504</b>	21st Dec. 1846	Joseph Whitworth.
Manufacture of looped fabrics - - - - -	<b>11,572</b>	8th Feb. 1847	{ Uriah Clarke. Harley Barber.
Weaving-machinery; preparation of materials employed in weaving [ <i>plain and looped fabrics by circular looms</i> ].	<b>11,658</b>	15th April 1847	Peter Claussen.
Manufacturing knitted fabrics - - - - -	<b>11,835</b>	6th Aug. 1847	Benjamin Bailey.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Manufacture of looped or knitted fabrics - - -	<a href="#">11,899</a>	7th Oct. 1847	Matthew Townsend.
Manufacture of knitted fabrics - - - -	<a href="#">11,930</a>	2nd Nov. 1847	Thomas Langton.
Machinery for the manufacture of looped fabrics -	<a href="#">11,962</a>	1st Dec. 1847	Frederick William Mowbray.
Manufacture of looped fabrics - - - -	<a href="#">12,195</a>	27th June 1848	Frederick William Mowbray.
Machinery for the manufacture of looped fabrics -	<a href="#">12,474</a>	13th Feb. 1849	{ Matthew Townsend. David Moulden.
Manufacture of looped fabrics; making of hat-bands and gloves.	<a href="#">12,561</a>	3rd April 1849	Henry Dunnington.
Manufacture of looped fabrics [ <i>on the principle of Brunel's "tricoteur"</i> ] - - - -	<a href="#">12,736</a>	9th Aug. 1849	{ William Thomas. John Marsh.
Looped fabrics and articles made therefrom; machinery for producing the same;—applicable in whole or in part to the manufacture of looped fabrics generally [ <i>frame-work knitting-machine; circular weaving-loom</i> ] - - - -	<a href="#">12,840</a>	10th Nov. 1849	{ Thomas Keely. William Wilkinson.
Looms for weaving linen, woollen, and cotton cloths [ <i>weaving looped fabrics</i> ].	<a href="#">12,945</a>	26th Jan. 1850	Wincelas Le Baron De Traux De Wardin.
Manufacture of looped fabrics - - - -	<a href="#">13,044</a>	18th April 1850	John Dove Harris.
Apparatus for taking up the work of certain descriptions of knitting machinery.	<a href="#">13,112</a>	8th June 1850	Charles Warwick.
Manufacture of looped fabrics [ <i>employing india-rubber in looped fabrics; making looped fabrics in knitting-machines</i> ] - - - -	<a href="#">13,253</a>	12th Sept. 1850	{ Robert Longdon, junior. Thomas Parker Tabberer.
Machinery or apparatus for knitting cotton-wool and other fibrous substances.	<a href="#">13,325</a>	7th Nov. 1850	David Christie.
Manufacturing looped and other woven fabrics -	<a href="#">13,479</a>	30th Jan. 1851	Alfred Vincent Newton.
Machinery for manufacturing textile and woven fabrics, and other articles of fibrous or filamentous materials; improvements in such fabrics and articles [ <i>frame-work knitting-machine; circular looms; warp-machines</i> ] - - - -	<a href="#">13,596</a>	17th April 1851	{ Thomas Keely. William Wilkinson.
Manufacture of knit and looped fabrics - - -	<a href="#">13,629</a>	10th May 1851	{ Thomas Haimes. John Webster Hancock. Albert Thornton. James Thornton.
Manufacture of looped fabrics - - - -	<a href="#">13,635</a>	15th May 1851	William Hemsley.
Manufacture of looped fabrics - - - -	<a href="#">13,639</a>	23rd May 1851	Benjamin Bailey.
Manufacture of looped fabrics - - - -	<a href="#">13,774</a>	16th Oct. 1851	Thomas Perry.
Manufacture of looped fabrics - - - -	<a href="#">13,858</a>	15th Dec. 1851	Thomas Twells.
Manufacture of knitted, looped, and other elastic fabrics [ <i>looms for weaving</i> ] - - - -	<a href="#">13,880</a>	24th Dec. 1851	{ Christopher Nickels. Thomas Ball. John Woodhouse Bagley.
Manufacture of looped fabrics; machinery employed therein [ <i>direct from a sliver without the intervention of spinning-machinery</i> ].	<a href="#">14,313</a>	30th Sept. 1852	William Hodgson.
Knitting-machinery - - - -	<a href="#">14,317</a>	7th Oct. 1852	Richard Archibald Brooman.
<b>XIV.—Meshed and Netted Fabrics.</b>			
Machine for making nets of all kinds from various materials.	1073	22nd June 1774	Peter Brotherston.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Machine for making net-work with knotted meshes in silk, thread, cotton, worsted, or any other materials of the like nature - - - - }	1195	24th June 1778	{ William Horton. William Ross. Thomas Davies. John Golby.
Machine for making fish-nets, garden-nets, horse-nets, rabbit-nets, and game-nets.	1880	15th May 1792	Robert Barber.
Manufacturing nets of all kinds - - - -	2571	16th Jan. 1802	Robert Brown.
Machinery for the manufacture of nets and netting -	<u>11,878</u>	30th Sept. 1847	William Edward Newton.
Manufacturing fishing and other nets - - - -	<u>12,755</u>	30th Aug. 1849	Onésiphore Pecqueur.
Manufacture of meshed and looped fabrics and other weavings - - - - }	<u>13,873</u>	19th Dec. 1851	{ John Thornton. James Thornton.
<b>XV.—Small Wares.</b>			
<b>1. (Ribbons, Tapes, and Belts.)</b>			
Weaving tapes and other goods in narrow breadths -	<u>612</u>	18th April 1745	{ John Kay. Joseph Stell.
Method of weaving figured and flowered silk ribbons and other sorts of figured and flowered goods.	<u>753</u>	22nd Oct. 1760	Joseph Stell.
Engine looms for weaving figured ribbons - - -	4366	6th May 1819	William Sawbridge.
Loom or machine for weaving tape and other such articles [ <i>appendages to regulate the delivery of the warp whilst weaving</i> ] - - - - }	5193	21st June 1825	{ Thomas Worthington, junior. John Mulliner.
Rack applicable to the battons of looms or machinery for weaving plain or figured ribbons.	6073	11th Feb. 1831	Claude Guillotte.
Manufacture of small wares - - - - -	6114	23rd May 1831	Joshua Procter Westhead.
Manufacture of small wares - - - - -	6896	24th Sept. 1835	Joshua Procter Westhead.
Weaving or manufacturing divers goods and wares; machinery applicable thereto [ <i>tapes, ribbons, edgings, and other narrow fabrics</i> ].	6967	23rd Dec. 1835	John Heathcoat.
Method of applying certain textile and exotic plants as substitutes in various cases for flax, silk, hemp, cotton and silk [ <i>fibres of tropical plants suitable for making ornamental ropes for looping up curtains, and for making bell-pulls, cords, tassels, and trimmings</i> ].	7639	14th May 1838	Miles Berry.
Looms for weaving ribbons, tapes, and other fabrics	7699	22nd June 1838	Peter Fairbairn.
Manufacture of woollen and other cloths or fabrics, and the application of such cloths or fabrics to various useful purposes [ <i>weaving cloth for braces, garters, tubing, or bands</i> ].	8327	23rd Dec. 1839	Laurence Wood Fletcher.
Manufacture of woollen belts, bands, or driving-straps.	8672	2nd Nov. 1840	James Heywood Whitehead.
Manufacture of flat bands - - - - -	9160	16th Nov. 1841	Robert Stirling Newall.
Weaving ribbons and other ornamental fabrics -	9523	25th Nov. 1842	James Smith.
Manufacture of narrow non-elastic fabrics - -	9695	11th April 1843	Uriah Clarke.
Weaving fabrics for driving-bands of machinery and other uses - - - - }	<u>10,407</u>	25th Nov. 1844	{ William Alsop. Thomas Forster.
Looms for weaving ribbons and other fabrics - -	<u>10,878</u>	10th Oct. 1845	William Hodgson Gratrix.
Looms [ <i>for weaving ribbons</i> ] - - - - -	<u>11,018</u>	23rd Dec. 1845	William Cole.
Looms for weaving [ <i>ribbons or fabrics of narrow width</i> ].	<u>11,148</u>	25th March 1846	William Unsworth.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Manufacture of driving bands;—partly applicable to the manufacture of other fabrics [ <i>weaving</i> ].	<a href="#">11,436</a>	3rd Nov. 1846	Alfred Vincent Newton.
Looms for weaving ribbons and other fabrics - - -	<a href="#">12,044</a>	<a href="#">27th Jan.</a> 1848	Thomas Robinson.
Making hat-bands and gloves - - - -	<a href="#">12,561</a>	3rd April 1849	Henry Dunington.
Looms; manufacture of woven and twisted fabrics [ <i>manufacturing bands, belts, or straps by coating the yarns with gutta-percha</i> ].	<a href="#">12,680</a>	29th June 1849	Thomas Beale Browne.
Machinery for manufacturing textile and woven fabrics and other articles of fibrous or filamen- tous materials; improvements in such fabrics and articles [ <i>adapting bobbin-net machines to weaving ribbons and other fabrics</i> ] - - -	<a href="#">13,596</a>	17th April 1851	{ Thomas Keely. William Wilkinson.
Weaving or producing fabrics when coloured or parti-coloured yarns or threads are employed [ <i>using coloured or parti-coloured threads to pro- duce sprigs on ribbons or other narrow fabrics</i> ].	<a href="#">13,834</a>	27th Nov. 1851	Richard Whytock.
Looms for weaving [ <i>small ware looms</i> ] - - - -	<a href="#">14,151</a>	1st June 1852	Thomas Willis.
<b>2. (Coach and Livery Lace.)</b>			
Machine for the manufacture of gold and silver twist, silk, cotton, or thread twisted lace-net, similar to lace as made by hand with bobbins on pillows; also making iron, brass, or copper wire- net.	<b>3443</b>	1st May 1811	John Moore.
Weaving livery-lace and coach-lace - - - -	<b>4156</b>	7th Aug. 1817	Samuel Mersey, junior.
Mounting and producing, also removing and pre- serving the figure in weaving gold-lace, silver- lace, silk-lace, worsted-lace, cotton-lace, thread- lace, and other laces whether composed of those articles, or either of them, or a mixture thereof [ <i>jacquard apparatus attached to a loom for weaving figured coach-lace</i> ].	<b>4442</b>	11th April 1820	Francis Lambert.
Machinery for weaving figured goods [ <i>also weaving coach-lace</i> ].	<b>4543</b>	8th March 1821	Stephen Wilson.
Machinery for weaving [ <i>coach-lace by jacquard machinery</i> ].	<b>4795</b>	31st May 1823	Stephen Wilson.
Looms for making metallic tissues, and improve- ments in such tissues, applicable to the making of buttons, epaulettes, and tassels, and for other purposes for which gold or silver lace or braiding is commonly employed; also applicable to the making of imitation of jewellery and other fancy articles.	<b>7785</b>	30th Aug. 1838	Miles Berry.
Weaving figured fabrics [ <i>coach-lace</i> ] - - - -	<b>9573</b>	28th Dec. 1842	Thomas Thompson.
Manufacture of coach-lace and other similar looped or cut pile fabrics - - - - -	<a href="#">12,846</a>	7th June 1849	{ John Edward Hawkins Payne. Henry William Currie.
Machinery for weaving coach-lace - - - - -	<a href="#">13,948</a>	31st Jan. 1852	Alfred Vincent Newton.
A new or improved ornamental fabric [ <i>composed of metallic threads, or partly of metallic and partly of fibrous threads, and woven in lace machinery</i> ].	<a href="#">14,148</a>	29th May 1852	Richard Ford Sturges.
<b>XVI.—Braiding and Platting.</b>			
Engine for making sapping silk-lacing, both round and flat - - - - -	<a href="#">493</a>	30th May 1727	{ Richard Blanchard. Peter Blanchard.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Engine or machine for platting - - - - -	<a href="#">638</a>	18th Nov. 1748	Thomas Walford.
Machine for platting and interweaving laces, curtain and other lines, both round and flat; also various other articles.	<a href="#">1171</a>	8th Oct. 1777	Thomas Walford.
Manufacture of straw-plat made of split straw, presenting only the outside surface to the eye, and also other plat of split straw laid upon silk, paper, or wood - - - - -	<a href="#">2399</a>	8th May 1800	{ Edward Simpson. Caleb Isbister.
Manufacturing metal laces to imitate gold and silver open laces; manufacturing gold and silver open laces.	<a href="#">3198</a>	4th Feb. 1809	George Finch.
Mounting and producing, also removing, preserving, and replacing the figure in weaving laces of gold, silver, silk, worsted, cotton, thread, or mixtures of the same.	<a href="#">4442</a>	11th April 1820	Francis Lambert.
Platting straw - - - - -	<a href="#">4719</a>	28th Oct. 1822	Uriah Lane.
Machine for the manufacture of a platted substance composed either of silk, cotton, or other thread or yarn.	<a href="#">4867</a>	20th Nov. 1823	John Heathcoat.
Machinery for making cord or plat for boot and stay laces, and for other purposes.	<a href="#">5029</a>	4th Nov. 1824	John Head.
Manufacture of straw-plat for making bonnets, hats, and other articles.	<a href="#">5335</a>	18th Feb. 1826	Thomas Waller.
Machinery for covering fibres, applicable to the manufacture of braid and other fabrics.	<a href="#">7621</a>	21st April 1838	Christopher Nickels.
Manufacture of braid and plaits - - - - -	<a href="#">8518</a>	28th May 1840	Henry Augustus Taylor.
Manufacture of braid and plaits - - - - -	<a href="#">8537</a>	9th June 1840	Christopher Nickels.
Manufacture of braid and plaits - - - - -	<a href="#">8799</a>	19th Jan. 1841	{ Caleb Bedells. Christopher Nickels. Archibald Turner.
Manufacture of plaited fabrics - - - - -	<a href="#">9186</a>	16th Dec. 1841	Antoine Mertens.
Manufacture of plaited fabrics - - - - -	<a href="#">9252</a>	10th Feb. 1842	Christopher Nickels.
Manufacture of fringes, cords, and other small wares; machinery for producing the same - - -	<a href="#">9549</a>	8th Dec. 1842	{ William Lomas. Isaac Shimwell.
Machinery for manufacturing elastic braid - - -	<a href="#">9918</a>	27th Oct. 1843	{ Jonathan Bell, junior. Thomas Ross.
Machinery for platting or braiding straw, grass, and other materials designed to produce Tuscan and Leghorn braided straw, for hats and bonnets.	<a href="#">10,463</a>	11th Jan. 1845	John Ross.
Machinery for platting and braiding - - - - -	<a href="#">11,507</a>	21st Dec. 1846	Antoine Perpigna.
Manufacturing braids, plats, fringes, gimps, and similar articles.	<a href="#">11,989</a>	18th Nov. 1847	Peter Armand le Comte de Fontainemoreau.
Machinery for making cords or plats - - - - -	<a href="#">12,080</a>	9th Feb. 1848	Jean Marie Magnin.
Manufacture of fringes, gimps, and bullions - - -	<a href="#">12,180</a>	8th June 1848	Thomas Dalton.
Looped fabrics, and articles made therefrom; machinery for producing the same;—applicable in whole or in part to the manufacture of looped fabrics generally [ <i>braiding machines</i> ] - - - -	<a href="#">12,840</a>	10th Nov. 1849	{ Thomas Keely. William Wilkinson.
Machinery for braiding cotton-wool and other fibrous substances.	<a href="#">12,882</a>	10th Dec. 1849	David Christie.
Manufacture of braid; machinery connected therewith.	<a href="#">13,488</a>	1st Feb. 1851	Nathaniel Jones Amies.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Manufacture and treatment or finishing of textile fabrics and materials [ <i>apparatus for twisting shawl fringes</i> ].	<a href="#">14,129</a>	22nd May 1852	David Dick.
<b>XVII.—Elastic Fabrics.</b>			
Making cloth of whalebone for hats, caps, &c., also for the backs and seats of chairs and sofas, gigs and coaches, and other similar carriages and things.	2985	30th Oct. 1806	Robert Bowman.
Manufacture of elastic fabric from whalebone, and from whalebone, hemp, and other materials combined, for making elastic bodies for hats, caps, bonnets, and other like articles; also manufacturing such elastic bodies from the same materials by platting.	4976	15th June 1824	John Gibson.
Weaving elastic fabrics - - - - -	6334	14th Nov. 1832	James Vincent Desgrande.
Manufacture of elastic goods or fabrics - - -	6366	17th Jan. 1833	Robert William Sievier.
Introducing elastic materials into fabrics to render them elastic or partly elastic.	8203	23rd Aug. 1839	Moses Poole.
Manufacture of elastic fabrics, and articles of elastic fabrics - - - - -	9220	13th Jan. 1842	{ Caleb Bedells. Joseph Bedells.
Manufacture of narrow elastic fabrics - - -	9695	11th April 1843	Uriah Clarke.
Manufacturing various fabrics of which caoutchouc forms a component part.	<a href="#">10,057</a>	30th Jan. 1844	William Edward Newton.
Manufacture of elastic fabrics - - - - -	<a href="#">10,060</a>	19th Feb. 1844	Caleb Bedells.
Manufacture of elastic fabrics and rendering them less elastic - - - - -	<a href="#">10,061</a>	<a href="#">19th</a> Feb. 1844	{ Christopher Nickels. Benjamin Nickels.
Weaving elastic fabrics - - - - -	<a href="#">10,105</a>	14th March 1844	William Bown.
Manufacture of elastic fabrics - - - - -	<a href="#">10,133</a>	30th March 1844	{ John Biggs. Richard Harris, junior.
Manufacture of elastic fabrics [ <i>with velvet or plush surfaces</i> ].	<a href="#">10,379</a>	2nd Nov. 1844	Thomas Unsworth.
Manufacture of elastic fabrics, making articles from elastic fabrics - - - - -	<a href="#">10,407</a>	25th Nov. 1844	{ William Alsop. Thomas Forster.
Manufacture of elastic webs and cords; manufacturing articles from the same [ <i>weaving with india-rubber as weft, covered or uncovered</i> ].	<a href="#">10,552</a>	13th March 1845	Christopher Nickels.
Manufacture of elastic bands - - - - -	<a href="#">10,568</a>	17th March 1845	{ Stephen Perry. Thomas Barnabas Daft.
Manufacturing india-rubber fabrics - - - - -	<a href="#">10,820</a>	28th Aug. 1845	Alfred Vincent Newton.
Producing a texture elastic in some parts - - -	<a href="#">11,549</a>	28th Jan. 1847	Elizabeth Oudinot Lutel.
Giving elasticity to certain articles or fabrics - - -	<a href="#">11,729</a>	3rd June 1847	Christopher Nickels.
Manufacture of elastic fabrics and articles - - -	<a href="#">11,808</a>	20th July 1847	Thomas Barnabas Daft.
Manufacturing elastic stockings and other elastic bandages and fabrics.	<a href="#">12,294</a>	26th Oct. 1848	William Brown.
<b>XVIII.—Loom Tackle—[Temples, Shuttles, and Pickers].</b>			
Shuttle for weaving cloth - - - - -	<a href="#">542</a>	26th May 1733	John Kay.
Construction of looms or machinery for weaving various sorts of cloths or fabrics [ <i>shuttle</i> ].	5058	18th Dec. 1824	Pierre Jean Baptiste Victor Gosset.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Looms and implements connected therewith [ <i>lay and shuttle</i> ] - - - - -	5211	16th July 1825	{ Thomas Wolrich Stansfeld. William Prichard. Samuel Wilkinson.
Weaving and preparing cloth [ <i>self-acting temples</i> ] -	5687	19th Aug. 1828	Edward Barnard.
Shuttles used in power-looms - - - - -	6414	30th April 1833	Archibald Douglass.
Expanding or stretching cloth and keeping it even during the process of weaving, and preserving the selvages thereof - - - - -	6418	4th May 1833	{ Henry Jones. Thomas Jones.
Self-acting temple for use in weaving by power or hand loom.	6424	22nd May 1833	William Graham, junior.
Improvements applicable to looms for weaving different sorts of cloth [ <i>applying and combining moveable pickers to distend the cloth in the loom</i> ] -	6579	20th March 1834	{ John Paterson Reid. Thomas Johnson.
Construction of power looms for weaving cotton and other fibrous materials into cloth or other fabrics [ <i>self-acting temples</i> ] - - - - -	6644	12th July 1834	{ John Ramsbottom. Richard Holt.
Construction of looms for weaving by hand or power [ <i>iron pickers for looms</i> ] - - - - -	6657	12th Aug. 1834	{ Andrew Hall. John Slack, junior.
Stretcher to be used in or with hand or power looms.	7051	22nd March 1836	Andrew Parkinson.
Self-acting temple applicable to looms for working fabrics, whether moved by hand or power.	8237	10th Oct. 1839	James Smith.
Looms for weaving [ <i>and iron pickers</i> ] - - - - -	8380	8th Feb. 1840	Amand Deplanque.
Machinery or apparatus for weaving [ <i>self-acting temple</i> ].	8655	7th Oct. 1840	John Davies.
Machinery or apparatus for weaving [ <i>roller coated with sand, emery, &amp;c., for temples</i> ] - - - - -	8790	14th Jan. 1841	{ William Kenworthy. James Bullough.
Weaving cotton, silk, wool, and other fibrous substances; machines and instruments for the purpose [ <i>shuttles</i> ].	8796	19th Jan. 1841	James Smith.
Looms for weaving [ <i>metal pickers; distending the cloth by rollers</i> ] - - - - -	8913	3rd April 1841	{ James Ogden. Joseph Grundy Woollam.
Looms for weaving [ <i>and pickers of leather</i> ] - - - - -	8938	22nd April 1841	{ John Rostron. Thomas Welch.
Looms for weaving [ <i>revolving temples</i> ] - - - - -	9257	15th Feb. 1842	John Osbaldeston.
Machinery or apparatus for weaving [ <i>self-acting temples</i> ].	9339	3rd May 1842	John Railton.
Looms for weaving various kinds of fabrics [ <i>picking apparatus; two shuttles and a revolving shuttle-box</i> ].	9940	16th Nov. 1843	Luke Smith.
Power-loom [ <i>self-acting temple</i> ] - - - - -	10,308	12th Sept. 1844	{ Martin Cawood. William Pritchard, senior.
Looms for weaving [ <i>shuttle for under-pick looms</i> ] -	11,573	9th Feb. 1847	Enoch Wilkinson.
Weaving machinery, and preparation of materials employed in weaving [ <i>self-acting temple</i> ].	11,658	15th April 1847	Peter Claussen.
Pickers for power-looms; apparatus for manufacturing the same.	11,701	14th May 1847	John Tattersall Cunliffe.
Looms for weaving [ <i>temple</i> ] - - - - -	12,037	22nd Jan. 1848	Henry Heywood.
Pickers for power-looms - - - - -	12,119	10th April 1848	John Longworth.
Looms for weaving [ <i>self-acting pair of temples</i> ] -	12,158	11th May 1848	Mark Smith.
Improvements in and applicable to looms for weaving various descriptions of plain and ornamental textile fabrics [ <i>metal pickers for power-looms</i> ] - - - - -	12,368	11th Dec. 1848	{ Joseph Eccles. James Bradshaw. William Bradshaw.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Power-looms for weaving [ <i>temple</i> ] - - - -	<a href="#">12,449</a>	31st Jan. 1849	William Kenworthy.
Looms for weaving [ <i>double-jaw temple</i> ] - - -	<a href="#">12,568</a>	16th April 1849	{ Robert Clegg. Joseph Henderson. James Calvert.
Looms for weaving linen, woollen, and cotton cloths [ <i>also shuttles and conical-grooved bobbins</i> ].	<a href="#">12,945</a>	26th Jan. 1850	Winccalas Le Baron De Traux De Wardin.
Looms for weaving [ <i>application of roller temples</i> ] -	<a href="#">12,979</a>	25th Feb. 1850	James Hall.
Looms for weaving [ <i>temples with serrated discs</i> ] -	<a href="#">13,126</a>	11th June 1850	John Sidebottom.
Manufacture of textile fabrics [ <i>self-acting temple</i> ] -	<a href="#">13,361</a>	2nd Dec. 1850	{ Richard Shiers. James Heginbotham.
Looms for weaving [ <i>self-acting temples</i> ] - - -	<a href="#">13,685</a>	3rd July 1851	William Hamer.
Manufacture of weft forks, shuttle tongues, and lips for looms, by application of materials not hitherto used for the purpose [ <i>by casting them of a peculiarly prepared iron annealed in the presence of oxyde of iron</i> ].	<a href="#">13,773</a>	16th Oct. 1851	William Onions.
Machinery applicable to looms for weaving; tools employed therein [ <i>self-acting temple of two or more rollers with rowels; tools for making the rowels</i> ] - - - - -	<a href="#">13,990</a>	26th Feb. 1852	{ John Elce. John Bond.
Machinery for weaving fabrics [ <i>self-acting temple</i> ] -	<a href="#">14,092</a>	28th April 1852	William Newton.
<b>XXX.—Working Looms.</b>			
Working weaving-looms by machinery - - -	<a href="#">3648</a>	20th Feb. 1813	Peter Ewart.
Certain machinery or implements applicable to the process of weaving plain or figured cloths or fabrics, which may be used on or in conjunction with looms now in common use; construction of looms for such purpose [ <i>method of working looms either by hand or by steam or other power</i> ].	<a href="#">4726</a>	14th Nov. 1822	Richard Roberts.
Construction of looms for weaving fabrics composed wholly or partly of woollen, worsted, cotton, linen, silk, or other materials; machinery and implements for, and method of working the same [ <i>giving out and regulating the tension of the warps</i> ] - - - - -	<a href="#">4810</a>	5th July 1823	{ Thomas Wolrich Stansfeld. Henry Briggs. William Richard. William Barraclough.
Machines for making bobbin-net; manufacturing certain parts of such machines [ <i>machinery for regulating the delivery of the warp threads</i> ].	<a href="#">4918</a>	9th March 1824	John Heathcoat.
Making and working machines used in the manufacture of bobbin-net [ <i>on the principle of Levers' machine, driven by rotary power</i> ].	<a href="#">4920</a>	10th March 1824	William Darker Mosley.
Apparatus for giving tension to warps in looms -	<a href="#">4969</a>	15th June 1824	William Harwood Horrocks.
Power-looms [ <i>giving out and taking up motion</i> ] -	<a href="#">4991</a>	27th July 1824	Thomas Wolrich Stansfeld.
Weaving [ <i>working looms</i> ] - - - - -	<a href="#">5069</a>	11th Jan. 1825	Francis Gybbon Spilsbury.
Looms or machines for weaving cotton, linen, silk, woollen, and other fibrous cloths and substances [ <i>giving motion to looms; mode of taking up the cloth</i> ].	<a href="#">6356</a>	9th Jan. 1833	William Thomas Shallcross.
Method of taking up for power and hand-loom -	<a href="#">6480</a>	5th Oct. 1833	Thomas Welch.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Power-loom to be used in weaving cotton, linen, silk, woollen, and other cloths [ <i>taking up motion; stopping the loom</i> ] - - - - -	6619	27th May 1834	{ William Henry Hornby. William Kenworthy.
Construction of power-loom for weaving cotton and other fibrous materials into cloth or other fabrics [ <i>stopping motion</i> ] - - - - -	6644	12th July 1834	{ John Ramsbottom. Richard Holt.
Power and other looms; weaving silk, hempen, cotton, woollen, and other cloth [ <i>giving out and taking up motion</i> ].	6704	23rd Oct. 1834	Amasa Stone.
Hand-loom and power-loom [ <i>giving out and taking up motion; stopping looms</i> ].	6900	1st Oct. 1835	James Bullough.
Looms for weaving by hand or other power [ <i>giving out and taking up motion</i> ] - - - - -	6902	8th Oct. 1835	{ Appelles Howard. John Scattergood.
Machinery for weaving plain and figured fabrics [ <i>the taking up motion in power-loom</i> ].	7012	25th Feb. 1836	Clinton Gray Gilroy.
Power-loom and hand-loom for weaving plain and figured fabrics [ <i>stopping looms</i> ] - - - - -	7532	5th Jan. 1838	{ Samuel Eccles. William Wells.
Looms for weaving various kinds of cloth [ <i>giving out and taking up motion</i> ].	7642	15th May 1838	Thomas Melodew.
Improvements applicable to power and hand-loom [ <i>delivery of warp from the warp beams</i> ].	7806	13th Sept. 1838	Edwin Bottomley.
Weaving linen and other fabrics [ <i>regulating the unwinding of the warp threads</i> ].	7966	11th Feb. 1839	Edward Pearson Tee.
Looms for weaving various kinds of cloth [ <i>mode of giving out and taking up; stopping looms</i> ] - - -	8196	17th Aug. 1839	{ Joseph Schofield. Edmund Leach.
Construction of looms for weaving; application of the same to produce certain descriptions of goods and fabrics by steam or other power [ <i>mechanism for working jacquard and other looms</i> ].	8260	7th Nov. 1839	Thomas Yates.
Looms for weaving, to be worked by steam or other power [ <i>mode of winding up the cloth</i> ].	8263	7th Nov. 1839	John Thomas Laurente Lamy Godard.
Machinery or apparatus for weaving [ <i>taking up motion</i> ].	8655	7th Oct. 1840	John Davies.
Looms for weaving linen and other fabrics, to be worked by hand, steam, water, or other power [ <i>mode of giving off, taking up, and stopping</i> ].	8664	22nd Oct. 1840	Charles Parker.
Machinery or apparatus for weaving [ <i>arrangement for stopping the loom</i> ] - - - - -	8790	14th Jan. 1841	{ William Kenworthy. James Bullough.
Weaving cotton, silk, wool, and other fibrous substances; machines and instruments for the purpose [ <i>stopping the loom</i> ].	8796	19th Jan. 1841	James Smith.
Machinery for weaving woollen and other fabrics; manufacture of woollen doeskins [ <i>giving off warp</i> ]	8860	2nd March 1841	George England.
Looms for weaving [ <i>regulating the taking up motion</i> ]	8954	10th May 1841	John Paley, junior.
Machinery and apparatus for weaving cotton, silk, flax, wool, and other fibrous substances [ <i>mechanism for stopping the loom</i> ].	9032	21st July 1841	John M'Bride.
Looms for weaving [ <i>giving off, taking up, stopping</i> ] -	9257	15th Feb. 1842	John Osbaldeston.
Machinery or apparatus for weaving [ <i>regulating the recoil of the warp beam; mechanism for stopping the loom</i> ].	9339	3rd May 1842	John Railton.
Power-loom [ <i>delivering the warp; stopping the loom</i> ] - - - - -	10,308	12th Sept. 1844	{ Martin Cawood. William Pritchard, senior.
Apparatus for moving the warp in looms - - -	10,473	16th Jan. 1845	Louis Joseph Lecour.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Power-loom for the manufacture of cloth from cotton-wool and other fibrous substances [ <i>winding on to the cloth-beam</i> ].	<a href="#">10,486</a>	21st Jan. 1845	Thomas Noton.
Looms for weaving [ <i>stopping the loom</i> ] - - -	<a href="#">10,563</a>	17th March 1845	John Sellers, junior.
Looms for weaving [ <i>applying india-rubber to breaks for stopping looms</i> ].	<a href="#">11,765</a>	3rd July 1847	John Carr.
Looms for weaving [ <i>breaks for stopping looms</i> ] -	<a href="#">11,875</a>	30th Sept. 1847	Thomas Moore.
Machines for preparing to be woven, and weaving } cotton and other fibrous substances [ <i>giving motion to looms</i> ] - - - - -	<a href="#">11,902</a>	14th Oct. 1847	{ Matthew Curtis. Robert Lakin.
Looms for weaving [ <i>self-acting stopping apparatus</i> ] -	<a href="#">11,978</a>	25th Sept. 1847	Edwin Travis.
Power-loom [breaks] - - - - -	<a href="#">11,980</a>	25th Nov. 1847	George Holgate.
Looms for weaving [ <i>taking up, stopping</i> ] - -	<a href="#">12,037</a>	22nd Jan. 1848	Henry Heywood.
Looms for weaving [ <i>stopping and self-regulating apparatus</i> ].	<a href="#">12,156</a>	11th May 1848	Mark Smith.
Improvements in and applicable to looms for weaving [ <i>stopping apparatus</i> ].	<a href="#">12,267</a>	11th Sept. 1848	William Dickinson.
Improvements in and applicable to looms for weaving various descriptions of plain and ornamental textile fabrics [ <i>taking up motion; stopping the loom</i> ] - - - - -	<a href="#">12,368</a>	15th Dec. 1848	{ Joseph Eccles. James Bradshaw. William Bradshaw.
Improvements in and applicable to looms for weaving [ <i>working looms and breaks</i> ] - - -	<a href="#">12,455</a>	6th Feb. 1849	{ Joseph Harrison. William Harrison. John Oddie.
Machinery for weaving yarns [ <i>working looms</i> ] -	<a href="#">12,535</a>	26th March 1849	{ John Mason. George Collier.
Looms for weaving [ <i>applying friction-breaks to power-loom</i> ]. - - - - -	<a href="#">12,568</a>	16th April 1849	{ Robert Clegg. Joseph Henderson. James Calvert.
Machinery or apparatus for weaving [ <i>working looms for figure-weaving</i> ].	<a href="#">12,598</a>	3rd May 1849	Samson Woller.
Stopping power-loom; preventing injury to the cloth or fabric in the course of weaving.	<a href="#">12,635</a>	5th June 1849	Thomas Jowett.
Looms for weaving [ <i>apparatus for giving off warp and winding-up cloth</i> ].	<a href="#">12,639</a>	5th June 1849	Victor Hippolyte Laurent.
Machinery for weaving flax, cotton, silk, and other fibrous substances [ <i>taking up motion, combining and working power-loom</i> ].	<a href="#">12,693</a>	4th July 1849	John Combe.
Looms for weaving [ <i>giving out and taking up motion</i> ] -	<a href="#">12,792</a>	4th Oct. 1849	William Jamieson.
Machinery used for weaving cotton and other fibrous substances [ <i>taking up the cloth as it is woven</i> ] - - - - -	<a href="#">12,805</a>	12th Oct. 1849	{ Robert Lakin. William Henry Rhodes.
Looms for weaving [breaks] - - - - -	<a href="#">12,929</a>	17th Jan. 1850	Richard Smith.
Looms for weaving linen, woollen, and cotton cloths [ <i>stopping looms</i> ].	<a href="#">12,945</a>	26th Jan. 1850	Winceslas le Baron De Traux De Wardin.
Looms for weaving [ <i>giving off the warp</i> ] - -	<a href="#">12,979</a>	25th Feb. 1850	James Hall.
Looms for weaving [ <i>stopping looms</i> ] - - -	<a href="#">12,997</a>	7th March 1850	{ John Tayler. Richard Hurst.
Machinery or apparatus and operations connected with the manufacture of cotton-wool, silk, and other fibrous substances, and the application of certain materials to the manufacture of textile fabrics [ <i>giving motion to looms</i> ] - - - -	<a href="#">13,073</a>	7th May 1850	{ John Tatham. David Cheetham.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEAVING, &amp;c.—continued.</b>			
Machinery for weaving cotton-wool and other fibrous materials [ <i>stop motions</i> ] - - - - }	<a href="#">13,085</a>	29th May 1850	{ James Ashworth. Thomas Mitchell.
Looms for weaving [ <i>driving the shuttle without the intervention of hands</i> ].	<a href="#">13,126</a>	11th June 1850	John Sidebottom.
Machinery for weaving cotton, flax, and other fibrous substances; constructing and applying models for moulding, preparatory to casting parts of such machinery; tools to be used in making such machinery [ <i>breaks</i> ] - - - - }	<a href="#">13,208</a>	31st July 1850	{ Peter Fairbairn. John Hetherington.
Power-looms for weaving [ <i>self-regulating apparatus for taking up the cloth, stopping the loom</i> ].	<a href="#">13,217</a>	10th Aug. 1850	Henry Meyer.
Looms for weaving [ <i>working looms</i> ] - - - -	<a href="#">13,259</a>	19th Sept. 1850	William Eccles.
Looms for weaving [ <i>stopping looms</i> ] - - - -	<a href="#">13,260</a>	19th Sept. 1850	Samuel Brisbane.
Looms for weaving [ <i>cams or substitutes for the crank movement</i> ].	<a href="#">13,349</a>	14th Nov. 1850	Abraham Halsey.
Machinery or apparatus for weaving cotton, flax, and other fibrous substances [ <i>taking up motion</i> ].	<a href="#">13,379</a>	2nd Dec. 1850	John Platt.
Manufacture of carpets and other fabrics [ <i>stopping the working of machines for weaving and cutting pile fabrics</i> ] - - - - }	<a href="#">13,402</a>	12th Dec. 1850	{ Joseph Baldwin. George Collier.
Weaving [ <i>working power-looms for weaving figured fabrics by jacquard apparatus</i> ].	<a href="#">13,491</a>	5th Feb. 1851	Benjamin Ledger Shaw.
Fabrics; weaving; machinery and apparatus for weaving, &c. [ <i>apparatus for stopping looms; mode of taking up the cloth</i> ] - - - - }	<a href="#">13,633</a>	14th May 1851	{ Luke Smith. Mark Smith. Matthew Smith.
Machinery or apparatus for manufacturing textile fabrics [ <i>stop motion</i> ] - - - - }	<a href="#">13,693</a>	17th July 1851	{ William Dickinson. Robert Willan.
Weaving or producing fabrics when coloured or parti-coloured yarns or threads are employed [ <i>application of magnetic power for impelling small shuttles where small extent of travel is required</i> ].	<a href="#">13,834</a>	27th Nov. 1851	Richard Whytock.
Looms [ <i>taking up motion</i> ] - - - - -	<a href="#">13,983</a>	23rd Feb. 1852	James Pilling.
Machinery applicable to looms for weaving; tools employed therein - - - - - }	<a href="#">13,990</a>	26th Feb. 1852	{ John Elce. John Bond.
Manufacture of carpets and other fabrics; apparatus or machinery connected therewith [ <i>stopping the loom</i> ].	<a href="#">14,108</a>	1st May 1852	William Wood.
Weaving cotton-wool and other fibrous materials; tools or apparatus for constructing parts of machines used in such manufactures [ <i>stopping looms</i> ] - - - - - }	<a href="#">14,140</a>	22nd May 1852	{ John Mason. George Collier.
Looms for weaving [ <i>governing the letting off and taking up</i> ].	<a href="#">14,151</a>	1st June 1852	Thomas Willis.
Looms for weaving [ <i>taking up motion; stopping the loom</i> ].	<a href="#">14,155</a>	5th June 1852	Robert Hardman.
Looms for weaving; manufacture of terry fabrics [ <i>taking up mechanism; stopping the loom</i> ] - - }	<a href="#">14,204</a>	6th July 1852	{ Harold Potter. Matthew Smith.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEIGHING.—SPECIFIC GRAVITY.</b>			
<b>I.—Weighing, and registering Weight;— Balances, Scales, and Beams.</b>			
Geometrical scale-beam engine - - - - -	747	4th March 1760	Thomas Perkins.
Compound balance or engine by which waggons and other carriages, also heavy goods, wares, and merchandise, may be weighed with ease, dispatch, and accuracy.	1079	10th Sept. 1774	James Edgell.
Machine for ascertaining the weight of all kinds of goods, wares, merchandises and other substances, with much greater precision, and infinitely more expeditiously, than by any method hitherto practised.	1545	13th May 1786	Samuel Miller.
Weighing-machines - - - - -	2079	4th Jan. 1796	William Whitmore.
Construction of certain machines for weighing goods, carriages, waggons, &c.	2095	8th March 1796	Robert Salmon.
Apparatus for weighing - - - - -	2383	19th March 1800	David Hardie.
Making, adjusting, and stamping scale-weights -	2494	30th April 1801	William Wilson.
Machine for weighing to the amount of ten tons and upwards, to be made use of instead of the common steelyard or beams and weight.	3002	24th Jan. 1807	Chester Gould.
Machine called the Caledonian balance - - -	3044	14th May 1807	John Roebuck.
Machine for weighing objects - - - - -	3088	9th Dec. 1807	Charles Grant, Viscount De Vaux.
Machine to counterbalance the weight of a volume of water or other fluid required to be lifted by any steam or water engine, or other machinery worked either by animals or men.	3210	1st March 1809	Richard Scantlebury.
Instrument or machine applicable in machines as a balance or equipoise.	3271	2nd Nov. 1809	John Isaac Hawkins.
One side compound lever steelyard - - - -	3553	15th April 1812	William Whitfield.
Machinery for ascertaining the weight of any article.	4059	15th Aug. 1816	Jean Samuel Pauly.
Stamping scale-pans - - - - -	4319	10th Dec. 1818	Henry Pershouse.
Weighing-machine [ <i>with an index</i> ] - - - -	4358	5th April 1819	Augustus Siebe.
Weighing-machines; "German weigh-bridges" -	5290	10th Nov. 1825	Johann George Deyerlein.
Weighing-machine [ <i>on the principle of the steelyard</i> ].	5686	18th Aug. 1828	Benjamin Matthew Payne.
Construction of weighing-machines - - - -	6479	5th Oct. 1833	Miles Berry.
Ascertaining and indicating the work performed by weighing, measuring, or numbering apparatus.	6567	27th Feb. 1834	Robert Hendrick Goddard.
Weighing-machine - - - - -	6608	22nd May 1834	George Bather.
Machine for weighing, with means of keeping a register of the operations of the instrument.	6652	26th July 1834	Pierre Barthelemy Guinibert Debac.
Construction of weighing-machines and other machines used in ascertaining weights.	6861	11th July 1835	Conrad George Kuppler.
Machines for weighing substances or fluids, and certain additions to such machines;—applicable to other purposes.	7637	8th May 1838	William Henry James.
Apparatus for weighing - - - - -	7724	9th July 1838	George Salter.
Machine for weighing - - - - -	8221	19th Sept. 1839	William Newton.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEIGHING, &amp;c.—continued.</b>			
Apparatus for ascertaining weights, strains or pressure.	8235	10th Oct. 1839	John Lothian.
Weighing-machine - - - - -	8342	14th Jan. 1840	Christopher Edward Dampier.
Apparatus for weighing - - - - -	8384	12th Feb. 1840	Robert Willis.
Weighing, and weighing machines - - -	8522	28th May 1840	George Henry Bursill.
Weighing-machines - - - - -	8622	10th Sept. 1840	Mark Freeman.
Weighing bodies raised by cranes or other elevating machines.	8892	22nd March 1841	Robert Goodacre.
Weighing-machines - - - - -	8924	15th April 1841	Christopher Edward Dampier.
Machine for weighing - - - - -	9288	7th March 1842	William Newton.
Weighing-machine - - - - -	9392	13th June 1842	William Cotton.
Machines or apparatus for weighing various kinds of articles or goods.	9464	8th Sept. 1842	Herbert George James.
Weighing apparatus - - - - -	9805	26th Jan. 1843	Robert Goodacre.
Weighing-machines and turn-tables to be used on or in connection with railways; weighing-machines to be used in other situations.	9797	22nd June 1843	Samuel Ellis.
Weighing-machines; steelyards - - - -	<u>10,580</u>	17th March 1845	{ Henry Grissell. James Lewis Lane.
Weighing-machines, steelyards, and scale-beams -	<u>11,277</u>	30th June 1846	William Clarke.
Weighing-machines - - - - -	<u>11,754</u>	16th June 1847	Henry Pooley.
Spring apparatus and balances - - - -	<u>12,095</u>	14th March 1848	Alexander Alliot.
Machinery for weighing - - - - -	<u>12,478</u>	14th Feb. 1849	William Chambers Day.
Weighing-machines [for weighing railway engines and carriages].	<u>12,525</u>	19th March 1849	Joseph Beranger.
Apparatus for ascertaining and for marking or registering the weight of goods or substances [with numbering-wheels for printing and registering].	<u>12,575</u>	17th April 1849	Alexander Alliot.
Improvements applicable to machinery for weighing.	<u>12,714</u>	24th July 1849	John Holt.
Ascertaining the weight of goods - - - -	<u>13,730</u>	28th Aug. 1851	William Johnson.
Construction of machinery applicable to weighing-machines, weigh-bridges, and other similar apparatus [and indicators].	<u>14,253</u>	7th Aug. 1852	Roger Hind.
Weighing-machines and weighing-cranes - -	<u>14,285</u>	9th Sept. 1852	John James.
<b>IX.—Weighing and ascertaining the Value of Gold and other Coin.</b>			
Machine for preventing fraud by counterfeiting gold, which gives the weight and alloy of that metal in coin, rings, and all utensils made of gold - - - - -	<u>686</u>	12th Dec. 1753	{ Jonathan Hulls. William Bradford.
Index-balance for weighing money or other materials without shifting the weights.	1014	30th April 1772	John Sebastian Clais.
Portable static and hydrostatic machine or balance for weighing anything, particularly gold, without weight or scale, and also for discovering the value of gold.	1053	31st Aug. 1773	John Andrew.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WEIGHING, &amp;c.—continued.</b>			
Machine for weighing coin and ascertaining counterfeit coin.	1080	12th Sept. 1774	Solomon Henry.
Instrument or a silver-coin balance for detecting base half-crowns, shillings, and sixpences.	1176	7th Jan. 1778	George Raby.
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<b>III.—Ascertaining and registering Specific Gravity.</b>			
Apparatus to determine the specific gravity of fluid bodies, and the relation that their weight bears to a given measure - - - - -	2826	9th March 1805	{ John Robert Irving. Isabell Lovi.
Arrangement of implements to form certain apparatus called "Hydraulic balance"—applicable to mechanical and hydraulic purposes.	4164	26th Aug. 1817	George Medhurst.
Instruments and apparatus for ascertaining the strength of spirituous liquors, and also the specific gravity of fluids and metals - - - -	4238	14th March 1818	{ John Ashton. Thomas Gill.
Apparatus to ascertain and register the specific gravity of certain fluids in transitu;—partly applicable to other purposes.	5722	4th Dec. 1828	William Brunton.
Hydrostatic engines;—partly applicable to other engines and for other purposes.	9869	17th Aug. 1843	Frederick Lipscombe.
Separating and assorting solid materials or substances of different specific gravities. [See "METALS."]	12,557	2nd April 1849	Alfred Vincent Newton.
Separating and assorting solid materials or substances of different specific gravities. [See "METALS."]	12,791	21st Feb. 1850	Alfred Vincent Newton.
Separating substances of different specific gravities. [See "METALS."]	13,881	24th Dec. 1851	Alfred Vincent Newton.
Instruments for ascertaining and registering the specific gravity of æriform fluids and liquids, or solid bodies - - - - -	14,002	8th March 1852	{ Enrico Angelo Ludovico Negretti. Joseph Warren Zambra.
Separating substances of different specific gravities; machinery and apparatus employed therein. [See "METALS."]	14,228	20th July 1852	Julius Frederick Philipp Ludwig Von Sparre.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WINDING, REELING, BALLING, FINISHING THREAD.</b>			
<b>I.—Winding, reeling, and balling Yarns and Thread.</b>			
Instrument for winding silk - - - - -	213	16th Aug. 1681	John Joachin Becher.
Engine for winding silk - - - - -	296	10th Nov. 1690	John Barkstead.
Engine to wind the finest raw silk - - - - -	422	9th Sept. 1718	Thomas Lombe.
Inventions for improving the art of throwing silk hereafter mentioned, namely, the first is by supplying the place of the hand in winding and the want of the lead in throwing of raw silk, by the pressure of two smooth surfaces.	519	21st Sept. 1730	Richard Wilder.
Method of crossing silk in the throwing, by means of a moving guider affixed to the reel upon the silk-throwing mill, and which proceeds in a diagonal direction, whereby the skein is spread more upon the reel than by the common method, thus facilitating the process of dyeing, and the winding and weaving after it is dyed.	980	25th May 1770	Peter Nouaille.
Engine for winding silk-thread and yarn, and for framing at the same time, and also for winding single, double, and several threads together at once.	974	20th Dec. 1770	Thomas Crawford.
Machine for winding yarns - - - - -	1009	23rd March 1772	Samuel Unwin.
Machine for winding yarns of cotton-wool, silk, flax, hemp, or mohair, or of any other material.	1126	6th June 1776	Henry Marsland.
Machine for reeling wool, hemp, flax, cotton, silk, and mohair.	1450	11th Sept. 1784	Henry Richards.
Machine for winding silk - - - - -	1524	28th Jan. 1786	Nicholas Gordelier.
Machinery for winding upon the pin wool, tow, hemp, flax, and cotton.	1696	3rd Aug. 1789	Edmund Cartwright.
Spinning-wheel, for skeining and at the same time reeling or winding flax, hemp, rope-yarn, and other articles, from the smallest thread to the largest cable.	1811	28th May 1791	Jean Arnoux.
Machine for winding silk, cotton, and wool - -	1896	5th July 1792	Peter Atherton.
Machine for winding wool and cotton - - -	1949	18th April 1793	Matthew Etchells.
Machine for winding wool and cotton - - -	2036	29th Jan. 1795	Peter Atherton.
Machine for reeling and skeining worsted, thread, silk, cotton, and other similar articles, and which requires only one person to work, manage, and direct.	2145	7th Nov. 1796	John Davidson.
Machine for reeling cotton - - - - -	2711	14th June 1803	John Wood.
Making a swift and other apparatus thereto belonging, for winding silk - - - - -	3900	21st March 1815	{ Charles Gent. Square Clark.
Machinery used for winding cotton - - -	4221	3rd Feb. 1818	Edmund Naish.
Machinery for winding - - - - -	4795	31st May 1823	Stephen Wilson.
Making swifts and other apparatus thereto belonging, for winding silk and other fibrous materials [capable of expanding to different diameters] -	4993	29th July 1824	{ Charles Jefferis. Edward Drakeford.
Winding silk, wool, cotton, or any other fibrous substances.	5092	10th Feb. 1825	Richard Badnall, junior.
Manufacturing silk [drawing from the cocoon; doubling and winding in one machine].	5093	12th Feb. 1825	John Heathcoat.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WINDING, &amp;c.—continued.</b>			
Manufacture of silk [ <i>winding it from the reel on to bobbins</i> ].	5230	30th July 1825	Richard Badnall, junior.
Winding-machine - - - - -	5376	13th June 1826	Henry Richardson Fanshawe.
Machinery for winding fibrous substances - -	5432	18th Dec. 1826	Maurice De Jough.
Apparatus or methods employed in throwing or winding silk or other threads.	6511	19th Nov. 1833	Marcel Roman.
Reels for reeling - - - - -	6910	22nd Oct. 1835	Richard Barber.
Machinery for winding hard and soft silk - -	6976	8th Jan. 1836	William Harter.
Reels for reeling cotton - - - - -	7187	16th Sept. 1836	William Bates.
Machinery of reels used in reeling yarns - -	7366	8th May 1837	William Nairne.
Machinery for winding silk and other fibrous materials.	7978	23rd Feb. 1839	William Nash.
Machine for winding weft - - - - -	8801	19th Jan. 1841	Frederick Steiner.
Making, manufacturing, or producing carpets and hearth-rugs [ <i>winding yarns two or three-fold on bobbins for carpet warps</i> ].	8911	26th Jan. 1841	Edward Henshall.
Spindles, flyers, and bobbins for reeling all sorts of fibrous or textile substances, and application or adaptation of either or all of them to machinery for the same purpose.	9211	6th Jan. 1842	Montagu Macdonogh.
Manufacture of reels for reeling cotton and linen thread - - - - -	9543	8th Dec. 1842	{ William Smith Harris. Septimus Hamel.
Machinery for winding wool, cotton, flax, silk, or any other fibrous bodies.	9754	1st June 1843	Martyn John Roberts.
Winding yarns of wool, flax, cotton, silk, and other fibrous materials.	<u>10,231</u>	19th June 1844	William Sutcliffe.
Reeling silk, cotton, and other substances - -	<u>10,375</u>	2nd Nov. 1844	Jean Baptiste Maniquet.
Machinery for preparing and winding wool, flax, and other fibrous bodies.	<u>10,498</u>	28th Jan. 1845	Martyn John Roberts.
Machinery for winding cotton, silk, woollen, and linen yarns.	<u>10,720</u>	12th June 1845	Thomas Willis.
Weaving-machinery; preparation of materials employed in weaving [ <i>machinery for dressing and winding yarn</i> ].	<u>11,658</u>	15th April 1847	Peter Claussen.
Machinery for cutting wood for the manufacture of bobbins.	<u>11,736</u>	8th June 1847	Charles Larrad.
Machinery for winding yarn - - - - -	<u>11,888</u>	7th Oct. 1847	George H. Dodge.
Machinery or apparatus for winding, balling, or spooling thread, yarn, or other fibrous materials.	<u>12,353</u>	2nd Dec. 1848	William Young.
Construction of swifts, and arrangement of apparatus for winding silk and other fibrous substances.	<u>12,419</u>	16th Jan. 1849	Anthony Barberia.
Preparing yarns or threads; machinery for the purpose [ <i>treating and winding yarn into balls preparatory to being formed into warp; making bobbins; driving the same</i> ] - - - - -	<u>12,952</u>	29th Jan. 1850	{ John Mason. Mark Smith.
Preparation or manufacture of textile materials; machinery or apparatus used therein [ <i>method of laying on yarn in winding-machines</i> ].	<u>13,255</u>	12th Sept. 1850	Thomas Lucas Paterson.
Manufacture of cotton and other fibrous materials, and fabrics composed of such materials [ <i>winding yarns</i> ] - - - - -	<u>13,313</u>	2nd Nov. 1850	{ John Tatham. David Cheetham.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WINDING, &amp;c.—continued.</b>			
Manufacture of reels for reeling, and stands for reels.	<a href="#">13,370</a>	30th Nov. 1850	Richard Barber.
Manufacture of carpets and other fabrics [ <i>winding weft</i> ] - - - - -	<a href="#">13,402</a>	12th Dec. 1850	{ Joseph Baldwin. George Collier.
Machinery and apparatus for winding - - -	<a href="#">13,633</a>	14th May 1851	{ Luke Smith. Mark Smith. Matthew Smith.
Construction of reels of metal for winding cotton, silk, and other threads; machinery for making the same.	<a href="#">13,665</a>	14th June 1851	James Hinks.
Manufacture of carpets and other fabrics [ <i>apparatus for winding and doubling yarns</i> ].	<a href="#">13,888</a>	31st Dec. 1851	George Collier.
Machinery for winding yarns or threads [ <i>on unflanged bobbins; forming pin cops, &amp;c.</i> ].	<a href="#">14,151</a>	1st June 1852	Thomas Willis.
<b>II.—Finishing Thread.</b>			
Machinery for bleaching and finishing linen or cotton yarn.	<a href="#">5620</a>	21st Feb. 1828	David Bentley.
Process for preparing flax, thread or yarn, for use in the manufacture of boots, shoes, saddlery, sail-cloth, and other cloth or bagging [ <i>immersing the threads in a strong solution of oak-bark made hot, for the purpose of hardening and strengthening the fibres</i> ].	<a href="#">5666</a>	17th June 1828	John Bartlett.
Process of preparing and gassing thread or yarn -	<a href="#">9225</a>	15th Jan. 1842	John Thackeray.
Preparation of silk [ <i>producing a lustre on its surface</i> ].	<a href="#">10,938</a>	11th Nov. 1845	Robert James Hendrie, junior.
Preparation or manufacture of thread or yarns [ <i>finishing or giving a lustre to yarns</i> ].	<a href="#">11,092</a>	17th Feb. 1846	William Edward Newton.
Finishing thread or yarn - - - - -	<a href="#">13,413</a>	19th Dec. 1850	{ Edward D'Orville. John Partington.
Method of and apparatus for finishing yarns or thread [ <i>to produce a lustre and smoothness on sewing-thread</i> ].	<a href="#">13,670</a>	17th June 1851	Godfrey Ermen.
Treatment or finishing of textile materials; machinery used therein.	<a href="#">14,121</a>	8th May 1852	John Campbell.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WIRE DRAWING AND WORKING;—MAKING SIEVES.</b>			
<b>I.—Making, drawing, and refining Wire.</b>			
Converting into steel all manner of iron wire after it is drawn.	<a href="#">161</a>	1st Dec. 1671	Prince Rupert.
<i>Authority to take security and administer an oath to the several workmen, artificers, and persons concerned in patent No. <a href="#">161</a>, neither directly nor indirectly to divulge the same</i> - - - -	<a href="#">162</a>	8th Jan. 1672	{ Prince Rupert. Anthony, Lord Ashley. Sir Thomas Chickley.
Machine for making iron and steel wires of various sizes.	<a href="#">854</a>	31st July 1766	John Purnell.
Making brass wire by using coal instead of wood -	<a href="#">867</a>	26th Jan. 1767	William Champion.
Method of rolling silver, copper, and other metals, of various thicknesses with the same rollers by one operation, and of drawing brass, iron, steel, and other wire by wheels and a pinion, of various sizes, at one and the same time.	<a href="#">935</a>	28th Aug. 1769	Richard Ford.
Machine for making, drawing, sizing, and proportioning threads of gold or silver wire, and other materials.	<a href="#">1154</a>	8th May 1777	Robert Barber.
Machine for working and binding wire - - -	<a href="#">1959</a>	27th June 1793	Joseph Moseley Elliott.
Making wire from rolled and slit iron, either foreign or English.	<a href="#">2239</a>	2nd June 1798	John Champion.
Manufacturing zinc into wire - - - -	<a href="#">2842</a>	29th April 1805	{ Charles Hobson. Charles Sylvester.
Making wire of every description - - - -	<a href="#">3907</a>	18th April 1815	William Bell.
Making wire - - - - -	<a href="#">4257</a>	7th May 1818	Thomas Todd.
Machinery for making wire of iron, copper, brass, or other metal.	<a href="#">4258</a>	7th May 1818	William Church.
Wire-drawing - - - - -	<a href="#">4395</a>	20th Sept. 1819	William Brockedon.
Manufacture of wire - - - - -	<a href="#">7402</a>	19th July 1837	Thomas North.
Manufacturing wire from zinc; application of the same to various purposes.	<a href="#">10,256</a>	10th July 1841	William Newton.
Manufacture of wire [ <i>for the transmission of electro-currents in electro-telegraphic communications</i> ].	<a href="#">11,430</a>	29th Oct. 1846	William Reid.
Annealing or softening metallic wires and sheets of metal; also reducing, compressing, or drawing metallic wires; manufacture of metal rolls.	<a href="#">14,355</a>	11th Jan. 1853	Thomas Fildes Cocker.
<b>II.—Covering, coating, and plating Wire.</b>			
Method of plating silver upon metal-wire, and of plating gold upon silver wire, and drawing the same into wire of very fine sizes, both round, flat, and square, so as to make thread, lace, fringe, and tinsel as lasting as real silver and gold wire.	<a href="#">905</a>	8th Nov. 1768	George Whateley.
Plating gold upon silver plated wire, and drawing the same into wires of very fine sizes, both round, flat, and square, so as to make thread, lace, fringe, and tinsel as useful in various branches of business, as real gold wire, thread, lace, fringe, and tinsel.	<a href="#">908</a>	6th Dec. 1768	George Whateley.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WIRE-DRAWING, &amp;c.—continued.</b>			
Arrangement of machinery for covering or forming a case round wire, cord, gut, thread, or other substance, to render the same applicable to various purposes.	6896	24th Sept. 1835	Joshua Procter Westhead.
Electric telegraphs [covering the wires of electric telegraphs].	11,428	27th Oct. 1846	Henry Mapple.
Forming and moulding plastic substances; apparatus employed therein [covering or coating wires with gutta-percha].	13,146	20th June 1850	John Hunt.
Protecting insulated electro-telegraphic wires; method and machinery for the purpose.	13,660	12th June 1851	John Chatterton.
Construction and manufacture of sewers, drains, water-ways, pipes, reservoirs, and receptacles for liquids or solids, from a substance not hitherto used for the purpose [and for insulating electro-telegraphic wires].	13,698	22nd July 1851	Thomas Earl of Dundonald.
Electric and electro-magnetic telegraph apparatus; machinery for and method of making and laying down submarine, submerged, and other lines [insulating wires] - - - - -	14,031	8th March 1852	{ William Smith. Archibald Smith.
Covering wires for telegraphic purposes [employing a varnish of bitumen].	14,057	6th April 1852	Moses Poole.
Electric telegraphs [covering telegraphic wires by means of a tubular chain] - - - - -	14,186	12th June 1852	{ William Reid. Thomas Watkins Benjamin Brett.
<b>III.—Wire Fabrics;—pointing and preparing Wire.</b>			
Filling with metal or other suitable material interstices in wire-gauze or other similar substances; "Metallic linen" [by melted metal].	5519	4th July 1827	René Florentin Jenar.
Machinery for pointing wire, applicable for making cards and pins.	6917	29th Oct. 1835	John Birkby.
Manufacturing wire fabrics for blinds and for other uses.	10,956	6th May 1845	Joseph Hill.
Machinery for flattening, preparing, and polishing wire for construction of weavers' reeds.	10,782	24th July 1845	Charles De Bergue.
Manufacture of wire-cloth - - - - -	11,877	30th Sept. 1847	Richard Johnson.
Manufacturing wire into woven fabrics and pins -	14,184	24th June 1852	Samuel Lusty.
<b>IV.—Manufacture of Sieves.</b>			
Making Kersey and twill sieves, and beads of bone and wood - - - - -	54	24th Jan. 1631	{ Sir William Brunker. Henry Reignolds. John Horne.
Machine for working and binding wire for making sieves, screens, meat-sieves, &c. &c.	1959	27th June 1793	Joseph Moseley Elliott.
Making the bottoms of sieves and riddles of whale-bone.	2985	30th Oct. 1806	Robert Bowman.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WIRE-DRAWING, &amp;c.—continued.</b>			
Combination of machinery for producing various shapes, patterns and sizes, from metals and other materials capable of receiving an oval or other form [ <i>pressing wire-gauze into forms for meat-safes</i> ].	4882	18th Dec. 1823	Pierre Jean Baptiste Victor Gosset.
Machine for perforating metal plates of gold, silver, tin, platina, brass, or copper, being applicable to all the purposes of sieves hitherto employing either canvas, linen, or wire.	5241	15th Aug. 1825	Marc La Riviere.
Manufacture of articles where india-rubber or gutta-percha is used [ <i>manufacture of sieve-cloths</i> ] - - }	11,455	19th Nov. 1846	{ William Brockedon. Thomas Hancock.
Manufacture of sieves - - - - -	12,111	5th April 1848	Joseph Foot.
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<b>WOOD-WORKING.</b>			
<b>I.—Sawing, Cutting, Splitting, and Shaping.</b>			
Engine for cutting timber into plank or board and other squares.	45	2nd Jan. 1629	Hugh Bullock.
Engine for sawing timber - - - - -	230	27th Nov. 1683	John Booth.
Cutting and sawing all sorts of boards and timber -	369	1st Jan. 1703	George Sorocold.
Machine for sawing wood - - - - -	1152	11th April 1777	Samuel Miller.
Machine for cutting, sawing, splitting, or dividing wood or other substances.	1153	26th April 1777	Thomas Crowley.
Machinery for sawing timber - - - - -	2844	7th May 1805	Marc Isambard Brunel.
Machinery for sawing wood - - - - -	3105	30th Jan. 1808	William Newberry.
Machine for sawing wood - - - - -	3459	27th June 1811	Charles Hamond.
Machinery for cutting out irregular forms in wood or any other substance, by tools with continuous or reciprocating circular motion.	4652	2nd March 1822	John William Buckle.
Sawing and cutting wood and timber by machinery	5074	11th Jan. 1825	{ George Sayner. John Greenwood.
Machinery for splitting, rending asunder, cutting, or cleaving wood, and forming and securing the same in bundles.	5169	14th May 1825	Henry Oswald Weatherley.
Machinery for cutting wood and other substances -	5871	12th Nov. 1829	Joseph Gibbs.
Machinery for cutting out wood for carriage wheels, and for cutting and shaping the wheels - - }	6310	22nd Sept. 1832	{ Joseph Gibbs. Augustus Applegath.
Machinery for sawing wood - - - - -	6531	20th Dec. 1833	James Hamilton.
Machine for cutting or fashioning wood into certain defined shapes or forms for various purposes.	6604	6th May 1834	Alexander Beattie Shankland.
Machinery for cutting wood and other materials -	6752	27th Jan. 1835	{ Joseph Gibbs. Joseph Gatley.
Machinery for cutting and shaping wood and other materials.	6755	29th Jan. 1835	Isaac Dodds.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WOOD-WORKING—continued.</b>			
Cutting wood by certain improved instruments -	6822	28th April 1835	{ James Stevenson. John Ruthven.
Sawing wood and other materials - - - -	7076	3rd May 1836	Henry Sharpe.
Machinery for sawing timber - - - -	7133	24th June 1836	John M'Dowall.
Cutting and working wood by machinery - -	7322	15th March 1837	Charles François Edward Aulas.
Cutting and working wood by machinery - -	7465	7th Nov. 1837	Charles François Edouard Aulas.
Sawing and otherwise preparing or constructing window-sashes, door and other frames, cornices, mouldings, and various other fittings or ornamental woodwork; machinery, tools, and apparatus to be used in the same.	7569	16th Feb. 1838	John Jackson.
Machinery for sawing wood - - - - -	7926	8th Jan. 1839	William Hickling Burnett.
Machine for cutting splints for matches - - -	8297	4th Dec. 1839	James Mayer.
Machinery for cutting blocks for paving - - -	8529	2nd June 1840	James Harvey.
Machinery for cutting or working wood - - -	8551	24th June 1840	William Hickling Burnett.
Cutting or sawing wood - - - - -	8592	5th Aug. 1840	Theophilus Richards.
Machinery for cutting wood; apparatus connected therewith;—partly applicable to other purposes.	9083	9th Sept. 1841	William Hickling Burnett.
Cutting wood and incrustating the same in order to present a sure footing for horses, and for other purposes.	9163	25th Nov. 1841	Richard Gurney.
Machinery for cutting and shaping wood into splints for manufacturing matches, also into other similar forms.	9295	14th March 1842	Reuben Partridge.
Cutting and shaping wood; machinery for the purpose.	9644	23rd Feb. 1843	Francis Roubiliac Conder.
Machinery for cutting or splitting wood for fuel and other purposes - - - - -	9661	16th March 1843	{ Charles Chilton. Frederick Braithwaite.
Machinery for sawing wood - - - - -	9756	3rd June 1843	Junius Smith.
Machinery and apparatus for cutting or carving substances to be applied for inlaying and for other purposes.	9962	25th Nov. 1843	William Irving.
Machinery for cutting wood and other materials -	10,015	16th Jan. 1844	Benjamin Cheverton.
Machinery or apparatus for sawing and cutting wood and other substances.	10,044	8th Feb. 1844	Edwin Sheppard.
Machinery for cutting and carving - - - -	10,528	17th Feb. 1845	Thomas Brown Jordan.
Machinery for cutting and shaping wood and other materials into various forms or figures; also cleaning and smoothing the surfaces of the same forms or figures.	10,610	15th April 1845	Frederick Rosenberg.
Improvements partly applicable to sawing wood -	10,631	22nd April 1845	Charles Matthew Barker.
Sawing-machinery - - - - -	10,712	7th June 1845	Samuel Harvey.
Cutting or carving wood and other substances -	10,756	8th July 1845	George Myers.
Machinery for cutting and carving wood and other like substances.	10,850	3rd Oct. 1845	Graziano Conté.
Machinery employed for sawing timber - - -	10,891	23rd Oct. 1845	Thomas Taylor.
Wood-cutting machines - - - - -	11,104	25th Feb. 1846	Antonio James Mayer.
Machinery for cutting and shaping wood for ship-building.	11,235	2nd June 1846	John Webster Cochran.
Machinery for sawing wood and other substances -	11,672	27th April 1847	George Thomson.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WOOD-WORKING—continued.</b>			
Machinery for sawing wood;—partly applicable to machinery for cutting certain other substances.	<a href="#">11,692</a>	6th May 1847	Herbert Spencer.
Machinery for cutting wood for the manufacture of bobbins.	<a href="#">11,736</a>	8th June 1847	Charles Larrad.
Machinery for cutting wood for the manufacture of casks and other wooden vessels, and for other purposes.	<a href="#">11,761</a>	19th June 1847	James Robertson.
Apparatus for cutting or carving ornamental forms in wood and other materials.	<a href="#">12,073</a>	23rd Feb. 1848	William Irving.
Machinery for sawing wood - - - - -	<a href="#">12,171</a>	1st June 1848	Thomas Hunt Barber.
Machinery for cutting wood for the manufacture of casks and other wooden vessels.	<a href="#">12,225</a>	29th July 1848	James Robertson.
Sawing and cutting wood - - - - -	<a href="#">12,403</a>	4th Jan. 1849	Henry Francis.
Cutting wood - - - - -	<a href="#">12,425</a>	18th Jan. 1849	James Hamilton.
Machinery for cutting and tying up firewood -	<a href="#">12,542</a>	28th March 1849	{ George Thomson. James Elms.
Machinery for sawing wood - - - - -	<a href="#">12,704</a>	12th July 1849	{ George Cottam. Edward Cottam.
Machinery for sawing wood - - - - -	<a href="#">12,735</a>	9th Aug. 1849	William Furness.
Sawing or cutting wood - - - - -	<a href="#">12,837</a>	10th Nov. 1849	Charles Matthew Barker.
Cutting, sawing, boring, and shaping wood - -	<a href="#">13,000</a>	7th March 1850	{ Frederick Rosenberg. Conrad Montgomery.
Machinery or apparatus for turning, cutting, shaping, or reducing wood or other substances.	<a href="#">13,030</a>	5th April 1850	Joseph Findlay.
Sawing, and sawing-machinery - - - - -	<a href="#">13,145</a>	20th June 1850	William Saunders.
Machinery for sawing, cutting, and shaping wood -	<a href="#">13,264</a>	28th Sept. 1850	James Hamilton.
Machinery for cutting wood for drain-pipes and for other uses.	<a href="#">13,285</a>	17th Oct. 1850	John Fowler, junior.
Cutting and shaping wood and other materials -	<a href="#">13,350</a>	16th Nov. 1850	Thomas Coats.
Machinery for cutting or splitting wood, and other substances.	<a href="#">13,368</a>	19th Dec. 1851	James Frederick Lackers- steen.
Cutting, shaping, and dressing wood; machinery for the purpose.	<a href="#">13,390</a>	8th Jan. 1852	Charles Dickon Archibald.
Cutting wood and other substances; machinery employed therein.	<a href="#">14,026</a>	20th March 1852	John M'Dowall.
Cutting and shaping - - - - -	<a href="#">14,181</a>	24th June 1852	George Pearson Renshaw.
<hr/> (Cutting Veneers.)			
Engine for cutting timber into thin pieces or scales, for making bandboxes, scabbards for swords, and the like - - - - -	<a href="#">87</a>	31st Oct. 1635	{ Sara Jerom. William Webb.
Engine for cutting timber into thin pieces or scales, for making bandboxes, scabbards for swords, and the like.	<a href="#">120</a>	20th Oct. 1638	Sara Jerom.
Cutting veneers - - - - -	<a href="#">2968</a>	23rd Sept. 1806	Marc Isambard Brunel.
Machine for cutting veneers in wood and other substances.	<a href="#">4324</a>	24th Dec. 1818	Henry Faverey.
Machinery for cutting timber into veneers or other useful forms.	<a href="#">6013</a>	20th Oct. 1830	Alexander Craig.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WOOD-WORKING—continued.</b>			
Machinery for cutting wood for veneers - - -	6989	29th Dec. 1835	Joseph Skinner.
Sawing or cutting of veneers - - - - -	9503	2nd Nov. 1842	Matthew Gregson.
Veneers - - - - -	9737	25th May 1843	Henry Austin.
Machine for cutting leaves of wood called scale-board - - - - -	9929	9th Nov. 1843	{ Benjamin Parsons. Edward Esdaile.
Machinery for cutting wood; laying and uniting veneers.	11,716	25th May 1847	Pierre Armand le Comte de Fontainemoreau.
<b>II.—Cutting, Planing, Fluting.</b>			
Tools for shaving, cutting, and preparing wood for making Leghorn hats and bonnets.	922	21st March 1769	Peter Debaufre.
Engine for planing boards and fluting wood for columns.	1125	21st May 1776	Leonard Hatton.
Planing wood - - - - -	1838	26th Nov. 1791	Samuel Bentham.
Machine for producing straight, smooth, and parallel surfaces in wood and other materials.	2652	30th Oct. 1802	Joseph Bramah.
Application of machinery for striking mouldings, rabbeting, grooving, fluting, and excavating wood.	2742	19th Nov. 1803	James Bevans.
Instrument or machine for cutting pillars or tubes either cylindrical or conical, out of wood or other material.	2837	30th March 1805	Sir George Wright.
Machine for cutting and planing wood - - -	3459	27th June 1811	Charles Hamond.
Machinery for working or cutting wood into all kinds of mouldings, rebates, cornices, or any sort of fluted work.	5460	3rd Feb. 1827	Antoine Adolphe Marcellin Marbot.
Cutting, working, and planing wood by means of machinery.	6228	23rd Feb. 1832	Alexander Beattie Shankland.
Planing, tongueing and grooving, and otherwise preparing or constructing, window-sashes, door and other frames, cornices, mouldings, and various other fittings or ornamental wood-work; machinery, tools, or apparatus to be used in the same.	7569	16th Feb. 1838	John Jackson.
Machinery for planing, grooving, and otherwise preparing or working wood.	7926	8th Jan. 1839	William Hickling Burnett.
Machinery for cutting or forming ornamental mouldings or devices in wood and other materials.	8220	19th Sept. 1839	Job Taylor.
Combining and applying machinery for cutting and planing wood.	8586	3rd Aug. 1840	James Hodgson.
Producing an uneven surface on wood and other substances.	8724	25th Nov. 1840	Henry Walker Wood.
Machinery or apparatus for planing and cutting wood and other substances.	10,044	8th Feb. 1844	Edwin Sheppard.
Construction of apparatus for cutting ornamental forms, beads, recesses, and mouldings in wood and other materials.	10,517	10th Feb. 1845	William Irving.
Machinery for planing wood;—partly applicable to machinery for cutting certain other substances.	11,692	6th May 1847	Herbert Spencer.
Machinery for cutting, tenoning, planing, moulding, dovetailing, boring, mortising, tongueing, and grooving wood.	12,735	9th Aug. 1849	William Furness.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WOOD-WORKING—continued.</b>			
Machinery for planing, tonguing, or grooving boards or planks.	<a href="#">13,794</a>	5th Oct. 1849	William Edward Newton.
Machinery for shaping wood into mouldings and other forms.	<a href="#">14,101</a>	29th April 1852	John Robinson.
Cutting mouldings, grooves, tongues, and other forms; planing wood.	<a href="#">14,200</a>	6th July 1852	Edward Maitland Stapley.
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<b>XII. — Working, Preparing, and Bending.</b>			
Bending wood, plank, or board, also ship's timbers	<a href="#">427</a>	14th April 1720	John Cumberland.
Hardening wood and rendering it flexible, and preserving wood from decay, particularly oak and elm planks.	910	9th Dec. <a href="#">1768</a>	Humphry Jackson.
Working wood and other materials - - -	1951	23rd April 1793	Samuel Bentharn.
Bending timber without injury to the grain, for circular work.	2020	5th Nov. 1794	John Vidler.
Combining and connecting together metal and wood - - - - - }	3480	27th June 1811	{ Thomas Attwood. Benjamin Cook.
Increasing the strength of timber [for building bridges].	4592	20th Sept. 1821	James Gladstone.
Process by which planks and other scantlings of wood will be prevented from shrinking, and improved in their durability, closeness of grain, and power of resisting moisture, and thus better adapted for ship or other building purposes, for the construction of furniture, and other purposes where compact wood is desirable; "Condensed wood."	5073	11th Jan. 1825	James Falconer Atlee.
Combining wood and metal to form rails or rods adapted to the manufacture of bedsteads, cornices, and other works; "Union or compound rods."	5162	14th May 1825	Samuel Pratt.
Machinery for preparing boards for flooring and other purposes.	5502	1st June 1827	Malcom Muir.
Machinery for preparing boards for flooring and other purposes.	6199	22nd Dec. 1831	Malcom Muir.
Joining pieces of timber together end to end, applicable to the purposes of making masts and top-masts of ships; also for making piles and for certain other purposes wherein timber is required to be lengthened.	6758	6th Feb. 1835	Thomas Roberts.
Applying and combining timber and other materials used in the construction of ships or vessels, masts, yards, beams, piers, bridges, and various other purposes.	7814	20th Sept. 1838	William Day.
Hardening wood, and rendering it repulsive of vermin, and proof against dry-rot.	8120	22nd June 1839	Joseph Pons.
Mode of forming or manufacturing staves, shingles, and laths; machinery used for that purpose.	8512	20th May 1840	William Hannis Taylor.
Machinery for working wood for making doors, window-shutters, window-sashes, mouldings, flooring, and for other purposes.	<a href="#">10,199</a>	23rd May 1844	John Wilkie.



Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WOOD-WORKING—continued.</b>			
Machinery for compressing wood and other materials requiring such process.	12,277	28th Sept. 1848	William Wilkinson Nicholson.
Preparing wood to prevent its warping or shrinking	13,815	15th Nov. 1851	Claude François Tachet.
Improvements applicable to the preservation of wood.	14,062	15th April 1852	Alfred Vincent Newton.
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<b>IV.—Artificial Wood.</b>			
Making a composition with wood to run liquid into moulds; useful for beautifying rooms and embellishing cabinets, &c. - - -	317	7th March 1693	{ Marshall Smith. Thomas Puckle.
Composition applicable to the purposes of carving, casting, and modelling; "Artificial wood" -	1011	3rd April 1772	{ William Whitlock. William Hodgson.
Composition of wood and other substances - -	5202	8th July 1825	Charles Adrien Malo.
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<b>WRITING AND COPYING.</b>			
Way to text and flourish in vellum and parchment, in black and white.	128	5th Feb. 1660	George Tomlyn.
Impressing or transcribing letters singly or progressively one after another, in writing, so neatly as not to be distinguished from print.	395	7th Jan. 1714	Henry Mill.
Composition to be laid on skins, paper, or linen, for drawing or writing on with pen and ink or pencil, and rubbing off clean.	809	31st March 1764	George Cummings.
Machine for writing or drawing by lines - -	1156	9th June 1777	Joseph Fisher.
Copying letters and other writings - - -	1244	14th Feb. 1780	James Watt.
Drawing and taking any visible object to any size, on true mathematical principles.	1578	19th Dec. 1786	Thomas Henderson.
Apparatus called "La nature à coup-d'œil," for displaying views of nature at large, by oil-painting, fresco, water-colours, crayons, or other mode of painting or drawing.	1612	19th June 1787	Robert Barker.
Writing and drawing machine, for making two or three similar writings or drawings at the same time and by the same person.	2305	11th April 1799	Marc Isambard Brunel.
Machinery and methods for writing, painting, drawing, ruling lines, and other things;—the machinery being applicable in part to other purposes.	2755	24th Sept. 1803	Isaac Hawkins.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WRITING AND COPYING—continued.</b>			
System of writing, drawing, and using certain characters, figures, and instruments, to facilitate correspondence and other literary operations.	2797	19th Dec. 1084	Stephen Pasquier.
Apparatus for producing duplicates of writings -	2972	7th Oct. 1806	Ralph Wedgwood.
Instrument whereby a person may draw in perspective, or copy or reduce any print or drawing	2993	4th Dec. 1806	William Hyde Wollaston.
Delineator, copier, or proportionometer, for copying and tracing reversely on copper, brass, hard wood, paper, asses'-skin, ivory, and glass, to different proportions and directly from nature, landscapes, prospects, or other objects standing or previously placed perpendicularly; also pictures, drawings, prints, plans, caricatures, and public characters.	3000	22nd Dec. 1806	Charles Schmalcalder.
Apparatus for producing several original writings or drawings at one and the same time; "Manifold Writer."	3110	22nd Feb. 1808	Ralph Wedgwood.
Apparatus for writing - - - - -	3395	8th Oct. 1810	Edward Manley.
Apparatus for copying manuscripts or other writings or designs.	3506	14th March 1815	William Bell.
Copying-presses, and pocket copying-press - -	4522	22nd Dec. 1820	Marc Isambard Brunel.
Tracing-apparatus, to facilitate the drawing from nature [on paper].	5132	23rd March 1825	Francis Ronalds.
Machine for drawing, copying, and reducing drawings, and for taking panoramas.	6149	10th Aug. 1831	Jean Marie Etienne Ardit.
Apparatus for sketching, drawing, or delineating -	6301	8th Sept. 1832	Caroline Eliza Ann Burges.
Multiplying certain drawings and engravings or impressions.	6715	15th Nov. 1834	Samuel Garner.
Obtaining or producing duplicate copies of manuscript writings and drawings; machinery for the purpose.	6831	13th May 1835	Thomas Dunkin.
Sketching, drawing, or delineating - - - -	7052	31st March 1836	Samuel Parlour.
Instruments used in writing - - - - -	7535	11th Jan. 1838	John Edwards.
Preparing materials to facilitate the teaching of writing.	8033	17th Sept. 1840	Moses Poole.
Instruments for writing or marking;—partly applicable to brushes for water-colour drawings.	9531	3rd Dec. 1842	Edward Cobbold.
Machinery for tracing and copying designs, drawings, and etchings of all kinds, either of the original size or upon an enlarged or reduced scale.	10,016	16th Jan. 1844	William Edward Newton.
Producing designs and copies; multiplying impressions either of printed or written surfaces.	10,219	6th June 1844	Joseph Woods.
Facilitating drawing from nature and models; apparatus for the purpose.	10,240	3rd July 1844	Anthony Lorimier.
Apparatus for drawing and marking - - - -	11,000	10th Dec. 1845	Moses Poole.
Instruments used for writing and marking - -	11,266	29th June 1846	William Mill.
Mechanical chirographer, or machine for delineating letters, figures, and other characters.	11,492	14th Dec. 1846	Benjamin Vickers.
Copying-presses - - - - -	11,638	23rd March 1847	William Henry Kempton.
Machine for tracing from solid bodies or subjects in relief.	11,789	10th July 1847	Samuel Stokes.

Subject-matter of Patent.	Number of Patent.	Date.	Name of Patentee.
<b>WRITING AND COPYING—continued.</b>			
Producing outlines on paper, pasteboard, parchment, papier-mâché, and other like fabrics.	12,361	9th Dec. 1848	William Ironside Tait.
Construction of writing and drawing instruments -	12,383	21st Dec. 1848	William Riddell.
Producing pressure for various purposes [ <i>taking copies of letters</i> ].	12,569	16th April 1849	John Ruthven.
Writing and drawing instruments - - - -	12,691	4th July 1849	Robert William Thomson.
Means and apparatus for obtaining copies of writings, drawings, and other designs [ <i>lithographic process</i> ].	12,913	3rd Jan. 1850	Albert Crakell Waterlow.
Articles used for writing and drawing; fastenings for the same.	13,151	24th June 1850	Edward Mitchell.
Writing letters, characters, or figures upon paper, parchment, or other material prepared for the purpose.	13,688	7th July 1851	Henry Craven Baildon.
Delineating objects; apparatus and materials for that purpose.	13,726	23rd Aug. 1851	James Palmer.
Reproducing drawings; mode of obtaining designs to be principally used in the engraving surfaces for printing fabrics.	13,969	12th Feb. 1852	Charles Louis Barbeé.
[See also "STATIONERY."			

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